THE

Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY N. S. DAVIS.

PUBLISHED WEEKLY.

Vol. VI. CHICAGO, JUNE 5, 1886. No. 23.

ADDRESS IN SURGERY.

THE PRESENT STATUS OF ABDOMINAL SURGERY.

BY N. SENN, M.D.,

OF MILWAUKEE, WIS.,

ATTENDING SURGEON TO THE MILWAUKEE HOSPITAL; PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO, ILL.; CHAIRMAN OF THE SURGICAL SECTION OF THE AMERICAN MEDICAL ASSOCIATION FOR 1886.

(Concluded from page 598.)

VIII. *Gastrotomy.*—The indications for gastrotomy have multiplied with the advances of modern aggressive surgery. The following are conditions for which the operation has been performed:

1. Extraction of foreign bodies. 2. Malignant disease of œsophagus. 3. Non-malignant stricture of œsophagus. 4. Cicatricial stenosis of pylorus. Alsberg has collected 107 cases in which the operation was done with a view to establish a permanent gastric fistula for the following conditions: Carcinoma 72, syphilitic stricture 2, cicatricial stenosis 16. Of this number, 24 patients survived the operation for more than thirty days. Of 22 cases proving fatal soon after the operation, 12 died of diffuse peritonitis, and 3 of phlegmonous inflammation of the abdominal walls.

Gastric Fistula.—When the operation has for its object the formation of a gastric fistula, it is of some importance to know at what point the stomach can be opened most advantageously by interfering least with its functional capacity. The majority of operators have had recourse to Fenger's incision, about two inches below and parallel to the left costal arch. Sédillot recommends an incision which should correspond to a point over the middle of the anterior surface of the stomach, claiming that the subsequent traction upon the cicatricial band in this locality would be reduced to a minimum, at the same time there would be no risk of injury to any important blood-vessels. Larger argues in favor of making the fistula as near the cardiac end of the stomach as possible, and nearer the lesser than the greater curvature of the organ. Berger and Championniere assert that clinical experience and post mortem examinations have shown that the opening is usually made near the pyloric orifice of the stomach, irrespective of the particular method of operation selected by the surgeon. They also believe that a fistula in this locality does not impair the functional result. When a gastric fistula is to be established, the operation should be done in two sittings. The preliminary operation consists in making abdominal section, stitching the parietal peritoneum to the skin, thus protecting the soft tissues against phlegmonous inflammation by contact with infectious substances, and fastening the anterior surface of the stomach with Lembert's sutures to the margin of the wound, so as to secure adhesions between the visceral and parietal peritoneum before the organ is opened. After two or three days firm adhesions have formed, when the operation is completed, by making a small incision through the wall of the stomach. Experience has shown that when the incision is large, it is difficult to prevent the escape of the contents of the stomach through the fistula even by ingenious contrivances, while a small opening is readily kept closed by a well-fitting compress.

1. *Extraction of Foreign Bodies.*—When a foreign body has become lodged in the stomach, and its presence can be ascertained by a well defined complexus of symptoms, or by physical examination, no time should be lost in removing it by gastrotomy, as the foreign body may produce death by interfering with gastric digestion or by producing perforation. Under these circumstances the operation is completed by suturing the wound in the stomach after the extraction of the foreign body, in the same manner as an intestinal wound, using the precaution to apply a double row of sutures to secure more efficient and perfect coaptation of the margins of the wound and serous surfaces. Absolute and complete physiological rest of the organ is an essential condition for obtaining primary union in the shortest space of time. Gussenbauer removed, by gastrotomy, a sword-blade 27 ctm. in length and 2 ctm. in breadth. The patient, unfortunately died of septic peritonitis, due to a perforation of the posterior wall of the œsophagus 14 ctm. above the cardiac orifice of the stomach, and another perforation in the fundus of the stomach 1 ctm. in width. Billroth removed successfully a set of false teeth in the same manner, and the patient recovered without any untoward symptoms. That the stomach may become the receptacle of strange and most disgusting substances is well illustrated by the cases recently reported by Schœnborn and Thornton, where gastrotomy was successfully performed for the removal of large masses of hair. Both patients were hysterical females. In Schœnborn's case the mass of hair weighed 281 grammes. That these cases are not so exceedingly rare is shown by Thornton, who has collected eight recorded cases

where post-mortem examination revealed that the presence of hair in the stomach produced death without a correct diagnosis having been made or surgical relief attempted.

Malignant Disease of Œsophagus.—The results obtained by gastrotomy for the purpose of prolonging life in cases of carcinomatous stenosis of the œsophagus are not such as to entitle the operation to the dignity of a justifiable procedure, and yet it must be a source of comfort to the surgeons who continue to perform it to know that the mortality which attends it has greatly decreased since the antiseptic treatment of wounds has been introduced. Zesas, for instance, has collected all cases of gastrotomy before and since the antiseptic treatment of wounds was practised. During the preantiseptic period, thirty-one operations were performed, with the result that only in one case was life prolonged by the operation (Jones).

Of 131 cases operated upon under antiseptic precautions, 28 terminated favorably as far as the operation was concerned. In 104 cases carcinoma of the œsophagus furnished the indication for the operation, of which only 17 recovered from the immediate effects of the operation. With such a fearful mortality, it becomes a serious question whether the operation is ever justified under the circumstances. Zesas, as the result of his investigations, advises that the operation should be performed early, before the patient has been prostrated from the effects of the disease. It behooves the conscientious surgeon to ask himself the question: Am I justified in submitting a patient suffering from an incurable affection to an operation of such gravity, which at best can prolong life only for a short time? Science, statistics and humanity answer with a positive and unqualified "*No.*"

2. *Non-Malignant Stricture of Œsophagus.*—In non-malignant stricture of the œsophagus, not amenable to more conservative treatment, gastrotomy should be performed, with a view of securing a new inlet for food into the stomach, and for the purpose of affording a more direct route of treating the stricture. So far, the operation has been performed by Caponotto, Fagan, Schede, Cérenville, MacNamara, Davies-Colley, and Bryant. Fagan's two cases died. In Schede's and Cérenville's cases, the principal and direct object of the operation—dilatation of the stricture—was not realized. The same applies to MacNamara's case. Davies-Colley's and Bryant's cases were successful in every respect, as the dilatation of the stricture was accomplished and the permeability of the œsophagus was restored, so as to warrant the closure of the fistula.

Caponotto's case deserves special mention, as it illustrates in an admirable manner the indications for the operation, the method of performing it, and its results. The operation was performed at Turin, September 19, 1884. The patient was a boy, five years of age, who had swallowed by mistake sulphuric acid, five months before the operation. Soon after the accident, symptoms of stricture appeared. He ate and drank with a good appetite, but vomited everything a few minutes after, and in consequence had become greatly emaciated. The finest olive-pointed bougie could not be passed through the stricture. The abdomen was opened at the usual place for a gastrotomy, and the parietal peritoneum united with the skin, and a continued catgut suture that caught only the serous and muscular coat of the stomach, was made to fix the stomach to the wound. An antiseptic dressing was applied. On the fifth day the stomach was opened and food introduced directly into the stomach. The patient improved rapidly. The next step was to dilate the stricture, which was done by combined dilatation by means of sounds introduced both through the stomach and œsophagus. After one month's treatment, the œsophagus was permeable to food, and the opening in the stomach was closed by another operation. Four months subsequently the boy died of tubercular meningitis. The autopsy showed that the stomach was slightly adherent to the abdominal wall at the site of the operation. The stricture had its location about two ctm. above the cardiac orifice, as was shown by a white circular cicatrix.

Loreta's method of digital dilatation in non-malignant pyloric strictures is deserving of confidence, and the results so far obtained merit imitation of the procedure.

3. *Cicatricial Stenosis of the Pylorus.*—In the operative treatment of cicatricial stenosis of the pylorus, the surgeon can resort to gastrotomy with subsequent gradual or forcible dilatation of the stricture, pylorectomy, or gastro-enterostomy. According to Zesas, gastrotomy for pyloric stenosis has been performed twenty-seven times with eleven recoveries. In these cases, the object of the operation is limited to the direct treatment of the stricture through the gastric wound or fistula. If, after opening the stomach, the stricture can be efficiently overcome by rapid digital dilatation, the visceral and abdominal wounds can be closed. If, however, this object is not obtained, a permanent gastric fistula must be established for subsequent gradual dilatation, until the permeability of the organ has been restored, when the fistula is closed by another operation. It is only proper to remark that the operative treatment of cicatricial pyloric stenosis should be limited to extreme cases of narrow strictures with great dilatation of the stomach, where simpler measures, as a carefully regulated diet, irrigation of the stomach, etc., have proved ineffective in affording relief and maintaining nutrition.

IX. *Pylorectomy.*—It is only a few years ago since Billroth announced to the world the feasibility of partial excision of the stomach for malignant disease by a successful operation upon a human being. The members of the medical profession throughout the entire civilized world were unanimous in their admiration of the man who had achieved what appeared to be the greatest triumph of modern surgery. The method of operating was modified and improved by other operators, and in a short time the medical journals teemed with accounts of new cases from different sources. At the present time we are in a position to decide upon the *justifiability* of the operation. In studying the statistics of the cases so far reported, even the most enthusiastic advocate of the operation

must feel that the expectations which had been anticipated have not been realized. The science and art of surgery have both been enriched through the labors of many a bold and enthusiastic operator who have demonstrated the feasibility of pylorectomy, but the results obtained must also satisfy every conscientious surgeon that the time has come when the operation should be at least temporarily abandoned until improved methods of diagnosis will enable us to recognize cancer of the stomach early enough to be amenable to surgical treatment.

1. *Malignant Disease.*—Fourteen cases of pylorectomy for cancer operated upon by Billroth were analyzed by von Hacker as to the pathological conditions and the results which were obtained. He divided them into three classes: 1. No adhesions, disease limited to the coats of the stomach. 2. Slight adhesions which were readily separated. 3. Extensive adhesions and metastatic tumors in adjacent organs. Only two of the patients belonged to the first class; one remained well one and three fourths of a year and the other three and one-half years after the operation. In the latter case a tumor returned in the abdominal wall and another in the inguinal region which were removed. The second class embraced seven cases; three died soon after the operation; of the remaining four three died four, ten and twelve months after operation from return of the disease; the fourth suffered from return of the disease six months after operation. The five cases represented by the third class died from the immediate effects of the operation. It can be therefore seen that a favorable result can only be hoped for in cases coming within the limitation of the first class where the disease is circumscribed and has not passed beyond the limits of the stomach. Every one must admit the difficulties which surround the diagnosis at this early stage of the disease, and the unwillingness of the patient to submit to such a grave operation when he is comparatively free from suffering, elements which in accordance with Billroth's own experience would limit operations to exceptional cases. Such statistics in the practice of the most eminent surgeon should definitely settle the question in the mind of any surgeon whose humanity has not succumbed to his morbid desire for transient fame.

Statistics from other sources can show no better results. In sixty-one cases of pylorectomy collected by Dr. Winslow, of Baltimore, 50 per cent. have died of shock within twenty-six hours, and of the cases which have recovered not one has lived for three years without recurrence of the disease at the site of the operation. Kramer has collected eighty-two pylorectomies with sixty-one deaths. In seventy-two cases the operation was done for carcinoma; fifty-five died soon after the operation, of the remaining seventeen only one proved a complete success. It is a source of congratulation to the surgeons of this country that the statistics above quoted are made up almost exclusively of foreign material. While the American surgeon is anxious and ready to adopt all modern innovations and improvements, in this particular instance he has shown a degree of conservatism worthy of his reputation in that direction. When the time has arrived when we shall be able to make an early positive diagnosis of malignant disease of the stomach, pylorectomy will be resuscitated and will find a ready adoption and a hearty welcome on American soil.

2. *Ulcer of the Stomach.*—Rydygier was the first to apply pylorectomy to the treatment of gastric ulcer. He excised a simple ulcer of the pyloric extremity of the stomach with a portion of the head of the pancreas, which was intimately adherent to the posterior surface of the stomach. The ulcer had given rise to stenosis and dilatation of the stomach for which the operation was undertaken. He affirms that resection of a portion of the stomach is a justifiable procedure in arresting hæmorrhage from a perforating ulcer of this organ. Czerny treated successfully a case of perforating ulcer of the stomach by making an incision through the anterior wall through which the ulcer was made accessible to direct operative treatment. The ulcer was excised and the visceral wounds closed. Recovery was complete and permanent. According to the statistics of Kramer pylorectomy has been performed ten times for contracting ulcer of the stomach with four recoveries and six deaths. Cicatricial contraction at the site of operation necessitated a second operation in one case in less than a year after the excision. The danger of secondary cicatricial stenosis would rather tend to indicate the superiority of gastro-enterostomy as a primary operation in these cases, and more particularly so if the ulcer or cicatrix is situated in the narrowest portion of the stomach, the pyloric orifice.

X. *Gastro-enterostomy.*—This operation was devised by Wölffler as a substitute for pylorectomy in that class of cases where after an exploratory incision it is found impossible to extirpate the diseased pylorus. The operation is performed with a view to reestablish the permeability of the digestive tract by securing a new outlet to the stomach through the medium of a fistulous communication between it and an adjacent loop of the duodenum or upper portion of the jejunum. An incision is made through the anterior wall of the stomach, the margins of which are accurately stitched to a corresponding incision in the intestine by two rows of sutures applied in the same manner as in cases of enterectomy. As compared with pylorectomy this operation is easier of execution, affords a wider range of application, and implies the infliction of less traumatism; while, on the other hand, it has the disadvantage that the pathological conditions which necessitated the operation are left unchanged.

1. *Malignant disease.*—The mortality following this operation is much less than after pylorectomy. According to von Haeker, Billroth has performed gastroenterostomy nine times in cases of cancer of the pylorus where extirpation could not be practised; of this number five died from the immediate effects of the operation, and four survived the operation and were improved for a short time. Kramer gives an account of sixteen gastroenterostomies for malignant disease of the stomach with ten deaths soon after the operation; one patient died four weeks after from the effects of secondary tumors; the remaining five

cases lived for several months. In one case Billroth performed pylorectomy and gastroenterostomy simultaneously upon the same patient. After the excision of the pylorus the end of the intestines and stomach were closed with sutures and a new outlet for the stomach was established by gastroenterostomy. The patient was doing well five weeks after the operation. From the above accounts of the operation it will be seen that for malignant disease of the stomach it has been resorted to only in those grave and desperate cases where excision was found impossible, hence we cannot speak of permanent results, and although the mortality is less than after pylorectomy, it is questionable if the best results that can be obtained by it—a few weeks or months of alleviation—will compensate for the immediate risks of life incident to the procedure.

2. *Non-malignant stricture of the pylorus.*—The future will probably assign the proper sphere of gastroenterostomy to the treatment of grave cases of non-malignant pyloric stenosis. The exclusion of a short space of intestine from the digestive tract by the establishment of a new pylorus by gastroenterostomy will not interfere with the proper maintenance of health, hence the operation in these cases must be looked upon not only as a palliative but also as a curative measure. The results obtained in this class of cases are indeed encouraging. Kramer has collected four cases, of which three recovered. In one of Rydygier's cases, a man 20 years of age, the diagnosis was made of *ulcus pylori* with cicatricial stenosis. When the abdomen was opened the stomach was found enormously dilated. Nothing further was done; the abdominal incision was closed. As the sufferings of the patient continued he begged that another operation should be performed. The abdomen was opened again and a communication between the stomach and duodenum was established by Wölffler's operation, and at the time the case was reported the patient was doing well. From the results already obtained it must be conceded that gastroenterostomy should be recognized as an established and legitimate operation in the surgical treatment of non-malignant pyloric stenosis.

XI. *Duodenostomy.*—This operation was devised by Langenbuch in 1880 for cases of inoperable stenosis of the pylorus. As the name indicates, it consists in the formation of an external permanent duodenal fistula for the purpose of introducing food directly into the intestinal canal. It was intended for cases where the general debility of the patient would preclude the propriety of the more grave operation of pylorectomy. The operation has been performed by Southam and Robertson, but both patients died on the day of operation. It is not probable that the operation will be again repeated.

XII. *Jejunostomy.*—In view of the great mortality of pylorectomy and gastroenterostomy for malignant disease, Pearce Gould planned and executed the operation known as jejunostomy. The object for which the operation is performed is the same as in duodenostomy, only that the intestinal fistula is made in a lower portion of the intestinal tract at a point where the mesentery is of sufficient length to permit the bowel to be easily drawn forward and stitched to the wound. The patient was 43 years of age, whose vital powers were near to fatal exhaustion. An incision was made in the median line from an inch below the xiphoid cartilage to within an inch of the umbilicus. The disease was found to implicate the pyloric end of the stomach, the commencement of the duodenum and mesenteric glands. The great omentum was pushed upwards and the upper end of the jejunum was drawn forward and stitched to the margin of the wound with a double row of silk sutures. The remaining portion of the wound was closed in the usual manner. The patient was nourished by rectal enemata and Slinger's nutrient suppositories. On the second day a small incision was made into the bowel through which an ounce each of cream and peptonized beef-tea was injected. The patient continued very restless and became worse and died of exhaustion sixty-six hours after the operation. The autopsy showed that the intestine had formed firm adhesions to the wound throughout and that no inflammation had followed the operation.

From the experience furnished by this case he believes an incision through the left linea semilunaris would be preferable to the median incision. The sutures should be so placed that the part of the intestine presenting in the wound is that portion exactly opposite the mesentery. The opening in the bowel should be across the axis of the intestine, and only long enough to admit the nozzle of a syringe. The food should be administered through the fistula in only small quantities at a time and gradually increased. When larger quantities are injected they should be given very slowly, so as to allow of their being mixed with the biliary, pancreatic, and intestinal secretions, and to prevent distension of the bowel. The food should be fluid and acid in reaction, the best articles being cream and peptonized milk and beef-tea.

Golding Bird performed a similar operation for the same indications some two months later without being aware of Gould's operation. The bowel was opened on the third day, when food was administered solely through the fistula. When the meal exceeded ten ounces it produced indigestion; in smaller quantities digestion and absorption appeared to be performed in a satisfactory manner. The patient improved considerably in health until the ninth day, when through an error of feeding him some food passed into the abdominal cavity, and he died in twelve hours. The reporter pointed out that by this operation duodenal digestion could be assured, and there was, for physical reasons, less chance of regurgitation than after gastrotomy, and that the procedure required less interference, in its performance, with other viscera than gastroenterostomy.

Interesting as these operations may be from a surgical and physiological standpoint, it is to be hoped that in the future their application will be limited to experiments on the lower animals. I have alluded to the different forms of "ostomies" for malignant disease to show how extensively the principles of abdominal surgery have been applied in laudable attempts to afford relief after the disease had passed

beyond the reach of radical measures. As a matter of course the results have been so unsatisfactory that future attempts in the same direction should be abandoned as incompatible with the true aim and advancement of abdominal surgery.

XIII. *Splenectomy.*—Accumulated experience appears to have definitely settled the indications for this operation. As the result of a study of thirty cases of splenectomy, Credé has come to the following conclusions:

1. Adults tolerate removal of spleen without permanent ill results. 2. Extirpation of the spleen produces a temporary disturbance in blood production. 3. The diminution in blood production is corrected by a vicarious action of other blood-producing organs, the thyroid gland and the medullary tissue in bone. 4. The physiological function of the spleen consists in effecting a transformation of the white into red blood-corpuscles.

During the past year a new case of splenectomy for leukæmia has been reported by Rydygier. The extirpated organ weighed six pounds. The patient, a woman 31 years of age, died on the following day of hæmorrhage from the abdominal wound. The ligature on the main blood-vessels involved held perfectly, and Rydygier ascribed the hæmorrhage to imperfect coagulation dependent upon the altered condition of the blood. This case brings the total number of deaths from the operation up to eighteen, of which sixteen were of hæmorrhage and two from shock. Thus far the only successful case of splenectomy for leukæmia is that performed by Franzolini.

As the pathology of splenic leukæmia remains to be explained and the mortality after extirpation has been so fearful, it would appear almost criminal to increase the sad statistics by adding new cases to the number of failures.

Splenectomy for visceral injury of the organ can show a splendid record, as of twenty cases collected by Zesas of partial or complete removal of a prolapsed spleen all recovered.

Credé extirpated the spleen successfully for cystic disease. The incision was made along the outer margin of the rectus muscle on the left side, from the costal arch to the crista ilii. The pedicle was ligated and the stump dropped into the abdominal cavity. The patient, a female, became more and more anæmic for a number of weeks. Four weeks after the operation the thyroid gland became swollen and tender. The gland returned to its normal condition with the general improvement of the patient a few weeks later. Five years after the operation Credé reported his patient as remaining well. The temporary change in the blood had passed away and no abnormal tumefaction of any of the blood-producing organs could be found.

Billroth extirpated a sarcomatous spleen with four ctm. of the tail of the pancreas in a woman 43 years of age who had noticed the tumor for seven years. The growth had been rapid for the last two years. The tumor was firmly adherent to the omentum, small intestines and pancreas; the latter organ was divided with Paquelin's cautery. The operation was not followed by any serious symptoms. During the third week a microscopical examination of the blood showed a slight increase of the white blood-corpuscles. The patient was feeling well four weeks after the operation. The numerous extirpations of the spleen made by Zesas on animals have demonstrated that it is not an essential organ and that its physiological function in the production of blood-corpuscles is adequately performed by vicarious organs, so that we can safely include splenectomy for visceral injuries and local diseases of the spleen among the well established legitimate surgical procedures.

XIV. *Surgery of the Gall-Bladder.*—Recently the gall-bladder has been made a favorite object of operative treatment. As patients suffering from affections of this organ usually come under the treatment of the physician at first, a brief consideration of the improvements in the surgical treatment of affections of this organ will be of great interest to every physician. It requires no argument to show that surgical treatment should not be resorted to as an *ultimum refugium*, but to secure a good result the operation when required should be done before the patient's strength is too much reduced. An early operation is the more justifiable as statistics have shown that operations upon the gall-bladder are among the safest and most satisfactory within the domain of abdominal surgery.

Although the feasibility of the surgical treatment of affections of the gall-bladder was indicated by J. L. Petit and Thudichum, it was applied in practice almost simultaneously by Sims and Kocher in 1878. Sims completed the operation at one sitting; the patient died on the eighth day. Kocher made a preliminary operation by stitching the gall-bladder to the margins of the wound so as to secure adhesions between it and the peritoneum before resorting to incision and drainage. The patient recovered. In the absence of positive signs and symptoms, indicative of biliary obstruction, it is exceedingly important to resort to a most careful examination in determining the existence of an over-distended gall-bladder. The anatomical location of the tumor, its relation to surrounding organs, and its connection with the under-surface of the liver are important elements in the differential diagnosis. Mr. Taylor, of Birmingham, who has had ample opportunity to examine cases of enlargement of the gall-bladder with Mr. Tait, describes a diagnostic line which appears to be of great value in determining the existence or absence of a distended gall-bladder. "This line is to be traced from the normal position of the larger end of the gall-bladder near the tip of the cartilage of the 10th rib on the right side, to the opposite side of the abdomen, crossing the middle line slightly below the umbilicus. In the direction of this line a distended gall bladder will naturally lie." In view of the comparative safety of an exploratory operation this should be preferred to the more doubtful expedients of exploratory puncture and sounding of the gall-bladder, in all cases where a positive diagnosis cannot be made without resorting to these latter diagnostic measures, which cannot be said to be free from danger or to furnish sufficient information upon which to base a positive diagnosis.

The surgical treatment of the diseases of the gall-bladder at present includes three distinct and well-defined methods of operation, viz:

1. Cholecystotomy with or without the formation of an external biliary fistula.

2. Cholecystectomy or excision of the gall-bladder.

3. Duodeno-cholecystotomy or the formation of a new communication between the gall-bladder and the duodenum.

1. *Cholecystotomy.*—At the present time the majority of operators are in favor of finishing the operation at one sitting. According to Keen the incision should be made, as a rule, over the centre of the tumor and parallel to the costal arch. It should be at least three inches in length and enlarged, if need be, afterward. All hæmorrhage must be carefully arrested before opening the peritoneum. Through this opening the gall-bladder and common duct are explored by the introduction of two fingers, or if necessary, the whole hand to ascertain the condition of the swelling, its relations to surrounding organs, and so far as possible, the character of its contents. If a calculus is found in the common duct an attempt should be made to push it into the duodenum; if this cannot be accomplished it should be forced back into the gall-bladder. If no stone is found present, a distended gall-bladder alone is a sufficient indication for incision and drainage. The evacuation of the gall-bladder is done by aspiration and its wall is subsequently cut to the extent of an inch or more. After incision care must be exercised to prevent escape of bile into the peritoneal cavity. The margins of the visceral wound are carefully stitched to the abdominal wound and the cavity of the gall-bladder, and its duct emptied of their contents.

Immediate closure of the gall-bladder after removal of its contents, was first suggested by Spencer Wells as appropriate in cases where the surgeon can satisfy himself of the patency of the biliary passages. This suggestion was carried out by Mr. Meredith, of London, who closed the incision in the gall-bladder after the extraction of three calculi, by means of a fine silk thread, introduced as a continuous suture, and inverting the edges of the peritoneal coat. The abdominal incision was closed in the usual way; no drainage being employed. This patient died in forty-eight hours with suppression of urine. At the autopsy the incision in the gall-bladder was found securely closed and quite impervious to fluid. He remarks on this method of operating as follows: "As regards the method adopted—of dispensing with drainage—I do not feel inlined to recommend it, although there appears to me no reason why it should not succeed in a favorable case, provided always that it was possible to ascertain that no obstruction remained in the ducts. This, of course, constitutes the chief difficulty, and may be impossible, so that, on the whole, I believe that the more usual plan of draining the gall bladder-should be preferred, at all events in the majority of instances."

Mr. Tait has expressed a similar opinion on this subject. He states distinctly that it cannot always be accertained with certainty that the common duct is patent, and if this should not be the case the periodical contractions of the gall-bladder might cause a giving way of the sutures, and extravasation of bile into the periodical cavity. That these fears are not without foundation is well illustrated by the case of cholecystotomy reported by Dr. Parkes. The case reported by Dr. Bernays during the last year on the other hand, demonstrates the advantage of suturing the gall-bladder and dispensing with drainage, as the patient recovered in a remarkably short time without any untoward symptoms and without the inconveniences of a temporary fistula. As in the majority of cases the safety of the patient is enhanced by the formation of an external biliary fistula, which also enables the surgeon subsequently to treat the interior of the gall-bladder and the bile ducts, should this be required it is evident that immediate closure of the gall-bladder has only a limited sphere of usefulness, and is applicable only in exceptional cases where the permeability of the biliary passages can be demonstrated at the time of operation. As in all other abdominal operations, the results obtained by Mr. Tait in the surgical treatment of diseases of the gall-bladder stand unsurpassed and preëminent. He performed cholecystotomy twenty-one times with as many recoveries. From different sources Dr. J. McF. Gaston has collected thirty-three cases of cholecystotomy with a mortality of 27.7 per cent., nine having died.

2. *Cholecystectomy.*—Ligation of the cystic duct and extirpation of the gall-bladder was introduced as a substitute for cholecystotomy by Langenbuch. He claims for his operation that it is not attended by any of the risks incident to incision and evacuation of the gall-bladder, and that in cases of recoveries from the operation it prevents the possibility of a recurrence of the disease and that the chances of a permanent biliary fistula are never incurred. He has performed the operation five times, with two deaths, one from acute œdema of the brain, and the other from an ulcerous perforation of the cystic duct. Two successful cases are reported by Thiriar and one by Corvoisier.

Mr. Tait prefers cholecystotomy to cholecystectomy, as being an easier and safer operation, and in case a recurrence of the disease makes a second operation necessary, he claims that the first operation makes the second easier. It can be done readily and without any danger through the adherent cicatrix, without any risk of opening the peritoneal cavity.

Duodeno-Cholecystotomy.—This term signifies an operation for uniting the gall-bladder and duodenum, by an opening between them. It has been suggested as a surgical procedure almost simultaneously by Harley and McF. Gaston, in cases of impermeability of the common bile duct, while the cystic duct is permeable, or may be rendered so by surgical means. In regard to such an operation, Harley says: "The triumph of modern surgery would be to establish an artificial fistula between the gall-bladder and the duodenum. For then not alone would the pent up bile be removed, but the disturbances arising from the non-admittance of bile into the intestines would likewise be at the same time overcome. I am not quite sure if, in these days of antiseptic surgery, the operation is not practicable; for I can see

no reason why the adjacent surfaces of the gall-bladder and duodenum should not be eroded by potassa fusa and speedily stitched together." Dr. Gaston has made this subject an object of patient and persevering experimentation. In summing up his results he says: "Out of fifteen subjects only three dogs finally survived the primary operation; yet it will be observed that the results of attachment of the gall-bladder to the duodenum and firm union by adhesive inflammation between their surfaces, and the formation of a fistulous opening through this septum, which affords a communication between their cavities."

The *feasibility* of this operation has been demonstrated on animals, but its adoption in practice as a legitimate, justifiable operation can only be expected after a more safe and expedient method of accomplishing the object has been devised, and its applicability has been demonstrated more satisfactorily on animals.

XV. *Injuries and Surgical Affections of the Liver.*—The idea of treating injuries and some of the diseases of the liver by surgical means is not a new one, as Ceccherilli credits his countryman, Zambeciari, with having made experiments on animals with such a view as early as 1680. Experiments and clinical observation have shown that injuries of the liver under favorable circumstances are not only repaired, but that in some unaccountable and as yet unexplained manner, loss of substance is replaced by regeneration. Thus Ceccherilli reports, among a number of operations, a very interesting case where he performed excision of a portion of the liver, with the gall-bladder, in a large hunting dog, with Paquelin's cautery. The operation was bloodless, and the animal recovered without any untoward symptom. The animal remained perfectly well, and was killed 226 days after the operation. The autopsy showed a cicatrix in the liver at the site of the operation, and that the organ had been restored to its former shape and size, as was ascertained by comparison with the liver of a dog of the same size. From the results of his experiments he advises that in no case should more than one-third of the size of the liver be excised. To prevent or arrest hæmorrhage he prefers the actual cautery to the elastic ligature and pressure forceps.

1. *Wounds.*—That gunshot wounds of the liver are not necessarily fatal, even if no active surgical treatment is resorted to, has been well established by a number of cases where the bullet was found encysted in the organ, without having given rise to any symptoms during life, years after the injury had been received. Thus Bilguer found a bullet encysted in the liver four months after the accident. Guthrie, Paroisse, and Thompson have each reported a case where, on autopsy, the bullet was found in the gall-bladder, the patient having died with other affections. These cases and the results of experiments are only mentioned with a purpose to show that with proper surgical treatment injuries of the liver would not be attended by such great mortality as has been the case on the expectant plan of treatment. The two great dangers attending visceral injury of the liver are hæmorrhage and extravasation of bile into the peritoneal cavity. In subcutaneous lacerations of the liver, if the symptoms are such as to indicate internal hæmorrhage of a serious nature, the only chance to save life would be to perform abdominal section, and to control the hæmorrhage by direct measures, as without such interference the patient would be almost certain to die of peritonitis, even if he recovered from the effects of hæmorrhage.

From the anatomical structure of the liver it is easy to conceive that the arrest of hæmorrhage from this organ is not an easy task. Ligation is out of question. If the wound has a regular outline and involves the border of the liver accurate coaptation of the wound surfaces with catgut sutures traversing the entire thickness of the organ, would offer a fair chance of controlling the hæmorrhage. The needle should be round and not quite as large as the thread of the catgut, so that the punctures would not give rise to additional sources of hæmorrhage. If the wound is irregular or located in such a manner as to render suturing impossible, the actual cautery can be used to advantage. If this fails to control the hæmorrhage, we have still left at our disposal one of the most reliable and safest means of arresting parenchymatous or venous hæmorrhage, in the aseptic tampon—a tampon made of iodoform gauze. If an aseptic tampon is to be successful in arresting hæmorrhage, an aseptic condition of the wound is indispensible. In subcutaneous and consequently, aseptic, wounds of the liver rendered accessible to treatment with the tampon by abdominal section, there would be no objection in plugging the wound permanently, closing the abdominal cavity with the exception of an opening for a drainage-tube as near as possible at a point opposite to the visceral wound.

Drainage in these cases is required on account of possible extravasation of bile taking place by filtration through the tampon. In the course of time the aseptic foreign material would become encysted. The use of the tampon for arresting hæmorrhage from the liver was advised by Thesen as early as 1795, and more recently by Brotherson, Demme, and Volkmann. In penetrating wounds of the abdomen with visceral lesion of the liver, the same means may be resorted to in arresting hæmorrhage and guarding against extravasation. In incised wounds suturing, if possible, should be resorted to, in gunshot wounds the aseptic tampon, with drainage. As prolapsed portions of the liver are also usually contused, reposition, as a rule, is contraindicated, and such portions are better removed with a Paquelin's cautery.

As aseptic foreign bodies may become encysted in the liver as well as in other parts of the body, no additional injury should be inflicted in order to effect their removal. All such attempts are attended by an increase of hæmorrhage and, from the friable nature of the substance of the liver, unless the greatest care is exercised an increase of traumatism is inevitable. On these accounts a faithful effort should be made to secure an aseptic condition of the wound so as to obtain the most favorable condition for the healing of the wound, and the formation of a capsule around the foreign body in all cases where extraction cannot be readily accomplished.

2. *Abscess and Echinococcus Cysts.*—The treatment of abscess of the liver and echinococcus cysts by abdominal section is based on the same principles which embrace all the precautions which are necessary to obtain adhesion between the parietal and visceral peritoneum at the site of incision. The recognized plan of treatment consists in making an exploratory incision through the abdominal wall over the most prominent part of the swelling, to ascertain the presence or absence of adhesions. If the peritoneal cavity is found obliterated, the operation is finished at once by incising and draining the abscess or cyst. If, on the other hand, no adhesions are found, the surface of the liver is exposed and the wound packed with iodoform gauze and an antiseptic dressing applied, which is allowed to remain for four to five days, until adhesions have formed, when a second operation is made to evacuate the contents of the swelling by incision. If the abscess or cyst is centrally located, and a considerable portion of healthy liver tissue is interposed between it and the external surface of the organ, it is advisable to make the incision with Paquelin's cautery, so as to prevent unnecessary or dangerous loss of blood. Echinococcus cysts are frequently located upon the upper surface of the liver, and on this account are inaccessible to treatment by abdominal section. In such cases the practice of attacking them through an opening in the chest, as has been successfully done by Israel and Volkmann, recommends itself as the safest and most expedient operation.

XVI. *Surgery of the Pancreas.*—The surgery of the pancreas belongs to the future. The physiological function of this organ requires further investigation for a more intelligible interpretation of symptoms when the seat of injury or disease. The only pathological conditions of the pancreas which have been made an object of surgical treatment are cysts. A number of successful cases of this kind are on record where a permanent cure was obtained by laparo-pancreatotomy, or the formation of an external pancreatic fistula. In only one case did the fistula remain permanently; in all the rest the secretion diminished gradually, and ceased definitely with the healing of the fistula. It is to be hoped that the symptomatology of different lesions of the pancreas will be made a special object of careful study and investigation, so that in the future we may be able to recognize and classify the different diseases of this remote organ during life, so that we may be able to resort to laparotomy in affections which may be amenable to direct surgical treatment.

XVII. *Laparo-nephrectomy.* — Although statistics have shown that lumbar nephrectomy is a much safer operation than laparo-nephrectomy, the latter has a a legitimate sphere in cases of large tumors of the kidney, which cannot be removed through a lumbar incision. This operation also enables us to examine the opposite kidney at the time of operation, an advantage which is considered of sufficient importance by Thornton to give this operation the preference in all cases where nephrectomy is intended. Bruntzel has lately removed successfully a fibroma of the capsule with the entire kidney weighing 37½ pounds, by abdominal section, in a woman thirty-three years of age. The tumor had reached this enormous size in five years. It reached from the ensiform cartilage to the symphysis pubis, distending the abdomen equally in all directions. Tympanitic resonance on percussion on both sides of the tumor. Palpation and exploratory puncture showed that the structure of the tumor was firm and solid. An incision was made the entire length of the linea alba. On opening the abdomen the tumor came into view covered by peritoneum, which was divided over the whole length of the tumor. The tumor was enucleated with the kidney and the pedicle, which was composed of the renal vessels, was tied, and after division dropped into the abdomen. The cavity was drained towards the lumbar region and the divided peritoneum sutured. Notwithstanding that a fecal fistula formed subsequently, the recovery of the patient was complete and permanent.

By a similar operation, Hicquet extirpated successfully a retroperitoneal sarcoma, which was intimately connected with the kidney with the latter organ in a girl six years of age. In this case the renal artery and vein were tied separately. For the extirpation of malignant tumors of the kidney or its immediate vicinity, laparo-nephrectomy affords a better chance for a thorough removal of diseased tissue and for controlling hemorrhage, and on these accounts should be preferred to the lumbar operation. Whenever practicable, the integrity of the peritoneal cavity should be restored by suturing, and, if required, drainage established in the lumbar region.

XVIII. *Laparo-nephrotomy.* — This operation is indicated in all cases of hydro-nephrosis and pyonephrosis, where from the size of the swelling, or on account of adhesions, lumbar nephrectomy cannot be performed. It is also preferable to the lumbar operation where a positive diagnosis cannot be made, between disease of the kidney and other fluctuating tumors of the abdomen, and in some instances extirpation of a hydronephrotic or pyonephrotic kidney is contraindicated by a disease of the opposite kidney or the general debility of the patient.

XIX. *Tumors of Omentum Majus.* — Tumors of the large omentum give rise early to pain or a sensation of discomfort, by causing traction upon the transverse colon by their weight. As a rule, tumors of this structure are found in the umbilical region, and have no connection with adjacent organs, hence they are movable in all directions, except downward. The differential diagnosis between omental and intestinal tumors in the same region rests upon the complexus of symptoms caused by the latter group, from their anatomical location interfering more or less with the functions of the intestinal tract. In the examination of an omental tumor, it must be remembered that it is in immediate contact with the anterior abdominal wall, consequently its presence will be indicated by an area of dulness on percussion corresponding to the size of the tumor. If the area of dulness remains permanent and unchangable, it would be an indication that the tumor has become adherent, or that the tumor is not omental but parietal.

Primary malignant disease of the omentum, if it

could be recognized early, would offer most favorable conditions for successful radical extirpation by abdominal section. Cystic tumors and echinococcus cysts are most favorably located for successful treatment by abdominal section and drainage.

XX. *Tumors of Mesentery.*—Aggressive surgery is gradually but surely encroaching upon the most remote tissues within the abdominal cavity, thus extending the benefit to be derived from direct local treatment to the most distant pathological conditions.

A few years ago, M. Tillaux extirpated successfully from the mesentery a glandular tumor which had undergone degenerative changes. The patient was a man, aged thirty-one years, in excellent health, who was taken suddenly ill without apparent cause. The most prominent symptom was a violent pain in the abdomen, which compelled him to remain immovable for about fifteen minutes. The pain recurred after a short interval with unmodified intensity. The following day the suffering continued in spite of anodynes, which were given freely. He was now removed to the hospital, where on examination a round tumor was found in the abdomen, which was thought to be a floating kidney. The patient suffered with obstinate constipation and pain for twenty-five days, when the pain became paroxysmal and always aggravated when he attempted to take food. He only obtained relief when he sat on his bed bent double, with his head resting on his knees. At this time M. Millard diagnosticated chronic invagination of the intestines. About thirty-eight days from the beginning of the illness, abdominal section was performed by Tillaux. The abdomen was opened sufficiently to permit the introduction of the hand, when he found a round tumor about the size of the head of a fœtus at term, situated on the right side of the mesentery which fastened the intestine to the spinal column. The tumor was recognized as a cyst of the mesentery. This was punctured and subsequently incised and evacuated from it caseous matter, resembling thick cream. Catgut ligatures were then thrown around the base of it, tied, and then the whole of the tumor cut off above them. The pedicle was touched with a strong solution of carbolic acid, the organs returned, and the wound closed. The pain ceased promptly and the recovery of the patient was complete. The histological examination of the tumor showed it to be composed of a lymphatic gland containing the products of caseous degeneration. This case illustrates that it is comparatively safe to remove tumors of the mesentery by ligation or enucleation, while, on the other hand, extirpation of tumors requiring for their removal the excision of a corresponding portion of the mesentery is a vastly more serious and difficult operation.

Wölffler reports a case of this kind. In his case a fibroma of the mesentery weighing 1½ pounds was removed with the mesentery and a corresponding portion of the intestine 113 ctm. in length. The ends of the bowel were brought together with sutures. The patient survived the operation only for twenty-four hours Wölffler suggests that in the future enterectomy in connection with extirpation of tumors of the mesentery should be followed by enterorrhaphy only in cases where the site of operation involves the movable portion of the bowel, as the cæcum, transverse colon, and sigmoid flexure, while in other localities no attempt should be made to unite the resected bowel, but the efforts of the surgeon should cease with the formation of an artificial anus. That this advice is not tenable in all cases becomes apparent, as, for instance, if the tumor is located in the mesentery of the upper portion of the intestinal canal, the physiological exclusion of such a large intestinal surface would be incompatible with a proper maintenance of digestion, assimilation, and nutrition.

My experience on animals in extirpating the pancreas has satisfied me of the tolerance of the small intestine to even extensive detachment of the mesentery. If it can be accomplished without producing mechanical destruction of the bowel by flexion it would be advantageous to approximate the vascular supply by suturing the mesenteric wound. This course also suggests itself as an important measure in preventing a defect in the mesentery which might subsequently become a source of internal strangulation. Hamerton has collected eight operations done for extirpation of tumors of the mesentery of which only one appears to have recovered. This case was operated upon by Sir Spencer Wells, who removed a tumor the size of an adult head. A microscopic examination showed that the tumor was a spindle-celled sarcoma. In a recent communication in the London *Lancet* Mr. Wells informs us that the patient has remained free from a recurrence of the disease and remains otherwise in good health since the date of operation, June, 1882. In all benign tumors of the mesentery enucleation should be preferred to excision so as to preserve intact as much as possible of the mesenteric circulation.

There can be no question but that mesenteric detachment is more likely to be followed by gangrene of the bowel if enterectomy is performed than when the continuity of the intestinal tube is preserved.

XXI. *Retro-peritoneal Tumors.*—The extirpation of a retro-peritoneal tumor by laparotomy must be looked upon as one of the most serious and difficult operations in surgery. Aside of the unusual difficulties encountered in arriving at correct conclusions as to the exact seat and nature of tumors in the retro-peritoneal space, the technique for their removal remains to be improved by future research and experimentation.

Dr. Homans has reported two cases of retro-peritoneal tumors removed by abdominal section. In the first case the operation was performed for a myxolipoma in a man 39 years of age; the tumor had been growing for two and a half years. The second patient was a woman 60 years of age, suffering from a lipoma. The tumor was located in both cases in the right side. In the first case another tumor was found in front and toward the left of the spine, which could not be removed. Both patients died soon after the operation.

In the first case the mesentery of the ascending colon was detached to gain access to the tumor. Homans very properly warns against such extensive

deprivation of vascular supply to the bowel in this particular locality. He advises, under such circumstances, either enterectomy and enterorrhaphy, or the formation of a preternatural anus. It would seem that in some of these cases, where the tumor is of moderate size, the operation would be easier, and the results better, if a lateral abdominal incision were made without opening the peritoneal cavity. In approaching the tumor through the peritoneal cavity after dividing the overlying peritoneum, the enucleation of the tumor should be accomplished by the use of blunt instruments, and with special care to preserve the integrity of the mesenteric vessels so as to avoid, if possible, the necessity for enterectomy and enterorrhaphy.

The foregoing fragmentary and imperfect sketch of the Present Status of Abdominal Surgery will, I hope, at least serve the purpose of impressing upon you the importance and magnitude of this, the most recent, department of surgery. I have attempted to allude to the defects as well as the advances, the failures as well as the triumphs. The results already obtained by the surgical treatment of injuries and diseases of the abdominal organs, are indeed gratifying, and bear abundant evidence of the good and faithful work which has been accomplished. The greatest achievements of abdominal surgery, however, necessarily belong to the future. This new territory, only so recently acquired by the surgeon, has been only partially explored. New operations will be devised and old ones improved. Diagnosis will be made more certain by a careful study of symptoms, a more thorough knowledge of physiology and pathology of the abdominal organs. Experimental research will clear up many obscure points in the causation of disease, which will lead to new and improved methods of treatment. With all these prospects before us, let us not remain idle. Abdominal surgery is of American birth. Let us cherish our own offspring. The world holds us responsible for its healthy growth and development. McDowell, Gross, Sims, the distinguished fathers of Abdominal Surgery, have left us in charge of an important and sacred trust. Let us labor in this department honestly, unceasingly, zealously, as faithful guardians of the promising infant until it shall have attained vigorous, perfect manhood, a source of pride to its illustrious parents, a perpetual fountain of blessing to suffering humanity, and a priceless honor to American Surgery.

A RAPID EVACUATOR FOR LITHOLAPAXY ACTING BY A CONTINUOUS CURRENT; ALSO A NEW METHOD OF ATTACHING FILIFORM GUIDES TO STRICTURE INSTRUMENTS.[1]

BY EDMUND ANDREWS, M.D., LL.D.,
SENIOR SURGEON TO THE MERCY HOSPITAL, CHICAGO.

The operation of litholapaxy, or lithotrity at one sitting, derived much of its marvelous success from the improved rubber bulbs and metallic tubes devised by Bigelow for the evacuation of the fragments of stone. Yet Bigelow's evacuators, and also those of Sir Henry Thompson, have this serious defect: the rubber bulb makes suction only for an instant. When it reaches the limit of its expansion, it suddenly stops the outward current from the bladder, and arrests *in transitu* a row of fragments of stone lying along the whole length of the tube, which at the next compression of the bulb are all thrown back into the bladder. Thus a large part of the fragments are pumped out and in many scores of times before they finally escape, and the evacuating stage of the operation is tediously prolonged, often lasting thirty or forty minutes. At the same time the inflamed bladder is irritated by the repeated forced expansions, and by the pelting of sharp fragments continually shot back into it.

Obviously what is needed is a continuous current moving always in the same direction. This idea has occurred to many persons, I presume, for since commencing investigations in this direction I have received letters suggesting analogous thoughts and plans from different physicians, especially from Dr. W. H. Graves, of Lexington, Ill., and Dr. M. B. Cochran, of Davenport, Iowa. After calculating the mathematical forms and proportions best adapted to the end, and corroborating the conclusions by experiment, I have succeeded in having the following apparatus constructed by E. H. Sargent & Co., which evacuates the fragments with a rapidity much beyond my expectations. It consists of the following parts:

First, a double-chambered evacuating tube represented in Fig. 1, which may be either straight or

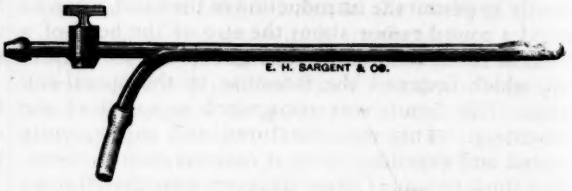

FIGURE 1.

curved. The straight ones are the best. They must be very carefully constructed as follows: The straight part consists of a cylindrical tube of very thin metal with an outside diameter of 8½ millimetres, and terminating in a rounded tip having a fenestrum like Bigelow's. This is the evacuating part, and it is made cylindrical with the largest admissible calibre, so as to permit the largest possible fragments to escape through it. Its outer end is bent downward as in the cut, and terminates in a piece of rubber tube 9 centimetres long and 1 centimetre inside diameter, for a purpose presently to be mentioned.

Along the under side of the straight portion of this outflow tube is soldered a thin concave semi-cylinder making an inflow-chamber which, so to speak, is wrapped half around the outflow tube, giving the whole an oval cross section with an outside circumference of about 31½ millimetres (see Fig. 2). The diameter, A B, of the cylindrical part is 8½ millimetres, and the depth, B C, of the inflow chamber is 2 millimetres. The inflow channel terminates in forty perforations, each 1 millimetre in diameter. The

[1] Read before the Chicago Medical Society, May 17, 1886.

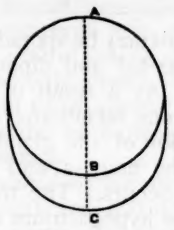

FIGURE 2.

outer end of the inflow tube projects in a straight line beyond the curve of the outflow, and terminates in a cylinder 10 millimetres inside diameter and having a stopcock of the same calibre. Great pains must be taken by the manufacturer to have no drops of solder or other obstructing material in the narrow inflow chamber.

To the outer end of the inflow tube is attached a rubber tube with an inside diameter not less than 1 centimetre, and a length of about 3 yards. The further end of this rubber tube attaches to a metallic strainer large enough to admit without resistance all

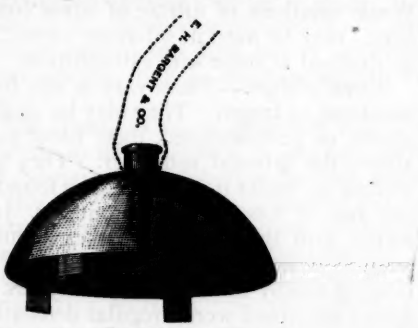

FIGURE 3.

the water which will flow through the rubber tube. A disc of ordinary perforated sheet metal 3 inches in diameter, with orifices less than a millimetre, will transmit the requisite quantity of wash.

A bucket filled with warm carbolized water having a strength of 1½ per cent. is hung over the foot of the operating table at such a height that the surface of the water will be about forty two inches higher than the patient's pubis. The hydraulic pressure generated by this height will deliver through the tube a current swift enough to sweep the fragments out of the bladder very rapidly. A metallic guard prevents the rubber tube from being compressed where it rests upon the rim of the bucket. The method of use is as follows: The long syphon rubber tube is connected to the strainer, and the latter dropped into the bucket of warm carbolized water. The tube is filled and connected with the evacuator, the stopcock being closed.

FIGURE 4.

The patient is now anæsthetized, and the stone crushed in the usual way. When the comminution is thought to be sufficiently accomplished, the evacuator is inserted into the bladder with the fenestrum towards the patient's head, and held at a steep slope so that the tip presses the bottom of the bladder gently down towards the rectum, making a funnel-shaped depression into which the fragments tend to fall. Now turning the stopcock, the fluid is admitted, and rushing through the inflow division, it enters the bladder by the small perforations, sweeping the fragments rapidly around into the fenestrum of the outflow tube, thence outward into a basin placed between the patient's thighs. The current being continuous and always in one direction the evacuation is accomplished with remarkable rapidity. In a recent case in which I tried it, the fragments made by crushing a hard oxalate of lime calculus over one inch in diameter were almost completely swept out in ten seconds, when perhaps twenty-five minutes of churning to and fro with Bigelow's evacuator would scarcely have accomplished the same result. Some sixty seconds more of the current sufficed to remove the last minute particles remaining. Having observed the slowness of Bigelow's apparatus by using it in some thirty cases, I was deeply impressed by the shortening of the operation effected by means of the continuous current.

There is one obstacle which affects my own and Bigelow's evacuators alike. If the crushing of the calculus is not pretty thorough, several large pieces may roll against the fenestrum at once, and lodging against each other in an arched form, obstruct the outflow, or a single piece too large to pass may do the same thing. I meet this difficulty in a very simple way. The last four inches of the outflow pipe is of rubber. When the sudden scantiness of the stream shows that the fenestrum is blocked, the operator compresses the end of the short rubber outflow pipe between his thumb and finger, and then with the thumb and finger of the opposite hand suddenly compresses the tube just above. This forces a short but strong pulsation back into the bladder and dislodges instantly the obstructing fragments.

The wash should always be of warm carbolized water, to which, perhaps, a little cocaine might advantageously be added. The carbolized water blunts the irritability of the nerves of the bladder and thus prevents shock, while it also leaves the cavity in a thoroughly antiseptic condition and tends powerfully to prevent cystitis.

In addition to the apparatus just shown I beg leave to call attention to a new method of attaching filiform guides to stricture instruments. The methods of connecting them heretofore have been two: First, by a small female screw on the butt of the guide which fits a male screw on the tip of the instrument. As the whalebone guides have not been fitted in this fashion, the operator could only connect to one or two of the woven variety usually sold him with his instrument, and could use no others. The second method of connection has been by a small orifice or tunnel through a knob at the tip of the instrument, which slides over the whalebone guide and thus attempts to follow it through the stricture. The trouble

FIGURE 5. Enlarged 2 diam.

with the tunnelled instruments is that in a tight stricture the whalebone clings so closely to the steel that frequently it will not slide. It is greatly to be desired that a stricture cutter or divulsor should be capable of being attached to any guide whatever which is found to pass the stricture.

The cut shows on an enlarged scale a plan which works well. A is a filiform bougie, either woven or of whalebone. B is a nut or female screw made to fit the split screw C. The split extends a little distance into the staff of the instrument D, so as to give the two parts the elasticity of a spring, and the jaws are roughened so as to hold the bougie with a firm grip.

In using the instrument, the surgeon tries his various filiforms until he finds one which passes the stricture. Leaving it *in situ*, he slips the female screw or nut B upon the bougie, next opens the split screw and closes it upon the end of the bougie, and secures it by screwing on the nut B. His guide is now firmly held, and will generally lead the instrument successfully through the stricture.

No. 6 Sixteenth St., Chicago.

MEDICAL PROGRESS.

THE RECTUM IN THE YOUNG.—At the meeting of the Obstetrical Society of New York on, February 16, DR. JACOBI read a paper on this subject, of which the following is a brief synopsis: The hollow of the sacrum being less curved in the child than in the adult, the rectum is shorter, straighter, and more uniform in shape, hence liquid or semisolid feces, after passing the sigmoid flexure in the infant, are rapidly evacuated. In the embryo the intestine is formed in sections, the excess occurring in the descending colon and sigmoid flexure; the latter may have a length of even thirty cm., whereas in the adult it seldom exceeds twenty cm. Because of the small size of the infantile pelvis the colon is thrown into folds, so that instead of one, there may be several flexures. Clinically, the presence of the redundent intestine is of great interest, from the fact that it may give rise to difficulty in determining the true position of the sigmoid flexure, and may prevent the passage of the intestinal contents, leading to the erroneous diagnosis of complete obstruction. The inflammatory conditions of the rectum, catarrhal, diphtheritic, etc., are of the same character as those in the adult. A simple proctitis may result from the irritation caused by a foreign body, or may be due to syphilis or tuberculosis. Periproctitis occurs rarely after typhoid and pyemia. There is no instance on record of cancer of the rectum in an infant. Complete fistula are rare in children and are difficult to cure; the incomplete variety are much more common. The actual cautery is the only reliable agent to employ in treating them; it should be applied to the entire canal from without inwards.

Dysentery.—This may be sporadic, endemic, or epidemic. The catarrhal and diphtheritic variety are interchangeable. As a result of the inflammatory process, the mucous membrane often becomes necrotic. Destruction of the glands, and subsequent cicatrization of the mucosa, and contraction of the bowel sometimes occurs. The treatment is mostly local. Pain in the hypogastrium may be relieved by cold or warm applications. Opium is of great value, and is tolerated in full doses; it should be given by the mouth rather than in enemata. The best astringents are tannin and gallic acid, lead, nitrate of silver, and iron—all to be given in small doses, but at frequent intervals. Bismuth is a valuable remedy, which, in addition to its antifermentative action, serves to protect the mucous membrane. In case of ulceration, local enemata should be used; injections of tepid salt solutions, flax-seed tea, etc., should first be given, in order to empty out the bowel, after which astringent solutions are to be introduced. A one per cent. solution of alum or tannin is generally useful. Weak solutions of nitrate of silver (one or two per cent.) may be used in subacute cases, but should be neutralized at once with salt-solution.

Rectal Polypi.—These vary in size from a pea to a hazel-nut, or larger. They may be single or multiple, sessile or pedunculated, their usual site being just above the internal sphincter. They were first described by Stoltz in 1831; Bokay found them only in one out of 2,600 patients, but Dr. Jacobi usually meets with three or four cases annually, and has treated about 100 cases, the ages of the patients ranging mostly from two to five years. Among the symptoms noted were irregular defecation (mucus or blood sometimes being discharged), with accompanying tenesmus, especially when the polypus was near the internal sphincter or between the two sphincters. A red mass might protrude from the anus, and repeated hæmorrhages were not uncommon, the last symptom being almost pathognomonic of polypus. The growth is readily felt on introducing the index finger into the rectum, which can usually be accomplished without difficulty. The treatment is simple, since the pedicle offers but a slight resistance, and may be tied and cut, or separated by torsion or evulsion, the loss of blood being insignificant. Sessile polypi often give rise to no symptoms, and may be caused to shrink up and disappear by using astringent injections.

Prolapse of the Anus or Rectum.—These are only different degrees of the same pathological condition. Weakness of the sphincter may be either congenital or acquired; the latter may result from overstraining as the result of an inflammatory process in the bladder or bowel, fistulæ, abscesses, polypi, etc. The mildest form of prolapsus consists in a simple eversion of the anus, between which and the worst variety, in which three or four inches of the bowel protrude and are incarcerated, there are many intermediate forms. The indications always are to reduce the prolapsed part, and to retain it in the proper position. For the latter purpose a T-bandage, or tamponing, with fixation of the nates, has been recommended; plugs of hard rubber or lead are used by others. The cause

of the prolapsus, whatever it is, ought to be eliminated. Polypi or vesical calculi should be removed, constipation and chronic diarrhœa should be cured. The child ought not to be allowed to defecate sitting upon a low stool, and each passage should be assisted by a large enema.

The swollen mucous membrane must be cleansed by frequent injections, and astringents be applied to it, a one per cent. solution of nitrate of silver being recommended; the latter must be neutralized at once with salt-solutions as otherwise it may produce soreness of the rectum, and thus lead to tenesmus, which will increase the existing prolapsus. Excessive hyperemia may be relieved by applications of ice and a four per cent. solution of cocaine. In exaggerated cases, the solid stick of nitrate of silver might be applied, or, better, still, the actual cautery, which may be applied longitudinally, transversely, or at several different points. If the sphincter is weak, an induced current, passed through the perineum, is beneficial, sulphate of strychnine being administered hypodermically in daily doses varying from $\frac{1}{60}$ to $\frac{1}{24}$ gr. Instead of the latter, an ointment composed of one part of extract of nux vomica and from twelve to twenty parts of fat or vaseline, may be introduced into the rectum.

Fissure of the Anus.—This is generally regarded as a rare affection in infants, but it is more frequent than is usually supposed. Kjelberg is the only writer who claimed that it is frequent during the first year of life. It generally appears as a narrow, reddish or grayish slit, observed on separating the margins of the anus, seldom extending beyond the sphincter, while the surrounding parts present a normal appearance. The fissure is extremely sensitive to the touch, and an examination frequently causes a contraction of the sphincter that is partly voluntary and partly spasmodic. A milder form of fissure may result from the rhagades of congenital syphilis, or from local skin erruptions. The more severe varieties are due to constipation or the passage of foreign bodies; the former condition may result from a congenital contraction of the sphincter, leading to an accumulation of feces in the ampulla, just above the point of constriction. As a rule, the fissure is situated at the posterior edge of the anus in the median line. The pain during defecation is intense and may last for several hours afterwards, so that the little patient's face becomes haggard and distorted; abdominal pain, tympanites, and other intestinal troubles may co-exist with cerebral irritation and sleeplessness —all of which symptoms may often disappear after a single dilatation of the sphincter. Vesical spasm and dysuria are not unfrequently due, not to the presence of a calculus, but to anal fissure.

Incontinence may occur instead of dysuria, not the paralytic form, but that in which small quantities of urine are passed at a time with tenesmus. In many children the symptoms may be more general; they are restless and fretful, lose their appetite, their sleep is disturbed, and they scream suddenly without any apparent cause. Their stools are frequent, but of the average daily amount and appearance. A polypus and fissure may rarely co-exist in the same patient after the first year of life; there will then be frequent discharges of blood, as well as excruciating pain in the region of the anus. The proper treatment of fissure consists in forcible and instantaneous dilatation of the sphincter, with or without anæsthesia, by the introduction of the two index fingers. The sphincter should be stretched until its fibres are distinctly felt to give way. Boyer advises deep incisions through the sphincter, but these may be followed by hæmorrhage, ulceration, and septic absorption.—*American Journal of Obstetrics*, April, 1886.

Massage as a Therapeutic Agent.—In a note on this subject Dr. William Murrell says: It is no easy matter to say in what class of diseases massage proves most useful. Unfortunately, its employment has been advocated in many cases, for which it is essentially unsuited. Accurate diagnosis is of the utmost importance, and, the sphere of usefulness of this remedy will, with increased experience, become more accurately defined. My best results have been in infantile paralysis; and it was in consequence of the success achieved in certain obstinate cases of this disease, that my attention, as has been elsewhere stated, was directed to the subject. Progress is often slow, but the ultimate results are most satisfactory. The nutrition of the parts is maintained until new cells in the spinal cord take on the functions of those which have undergone degeneration, or have been destroyed. Massage is, undoubtedly, of much value in many cases of obstinate neuralgia, and succeeds admirably in some forms of muscular pain, such for example, as those described by the late Dr. Inman under the term "myalgia." There is a general concensus of opinion that it is well adapted for the treatment of chronic joint-affections; and most of those I saw treated by von Mosengeil were such as would, in this country, be considered incurable, or would drift into the hands of "bone-setters." There are some diseases of internal organs in which it is, undoubtedly useful. Not long ago, a gentleman, aged 68, came to me complaining of shortness of breath, and increasing disinclination to take exercise. He had been in business, and had led a most active and energetic life. Three or four years ago he retired, and, from that time, experienced a gradual falling off in health. His appetite was poor, his bowels were obstinately confined, and he was nervous and anxious about himself. He was found to have a loud apex systolic murmur, and the heart's action was weak and irregular. I suggested massage, which was carried out systematically four days a week, for a period of six weeks. He improved from the very first, and, before the conclusion of the course, was better than he had been for many months. His appetite returned; his hands and feet were warmer; the bowels became regular; he slept well at night; and his spirits improved in a most satisfactory manner. In other cases of obstinate constipation, especially in women, I have known massage of the abdomen do a great deal of good.

In a well-known group of symptoms from which women frequently suffer, massage is essentially useful. I recently saw a lady, aged 45, or thereabouts, a pro-

fessional singer, who was laboring under the impression that she was going mad. She was so nervous that she was quite unable to accept an engagement, although she had been constantly before the public, and had hardly missed a night for twenty years. She told me she felt she was not to be trusted, and that, if left alone she would do herself or her children an injury. She was afraid to go near an open window, so great was the temptation to throw herself out; and she even begged that the knives might be removed from the table at dinner. These symptoms were greatly intensified after each monthly period, and she insisted that she was suffering from cancer, or some organic disease of the stomach or womb. She was restless at night, and would often get up in the early morning, and walk for hours, until thoroughly exhausted. She was given full doses of the bromides—a drachm, or more, four times a day—but with only temporary benefit. Massage was then tried; and it seemed, to use her own expression, to soothe her, and calm her, and make her forget her troubles. The case was a prolonged one, but now, at the expiration of three months, she is much better, and will soon be able to resume her professional duties. In several other cases of restlessness and inability to sleep, the same method of treatment has proved efficacious.

Dr. Graham, of New York, speaks highly of massage in the treatment of neurasthenia. He uses it for those "who, in spite of rest, change and medication, have become chronic neurasthenics, the result of business reverses, overwork, worry, loss of relatives, disappointed hopes, or as a sequel of some affection that has existed in some part of the system, but which has recovered or has become of secondary importance." These symptoms may be somewhat ill-defined; but I have certainly found massage of the greatest use in what, for want of a better name, has been called "spinal nervous weakness," or neurasthenia spinalis."

In the treatment of corpulence associated with constipation, massage is of much value. Some months ago I saw a lady, aged 38, who, as the result of much good living and little exercise, had become inordinately stout. She was very short of breath, and was disinclined for exertion of any kind. She had been fond of literary pursuits, but even those had lost their charm, and were irksome to her. She was extremely irritable, and a source of trouble and anxiety to her friends and relatives. Massage was prescribed, and in two months she lost a stone and a half in weight, and improved notably in other respects.

For many forms of menstrual disturbance, massage may be safely prescribed. I recently saw a young lady, aged 19, who suffered intensely at each monthly period, the pain being so severe, that hypodermic injestions of morphine had to be resorted to. Massage of the abdomen and pelvis was prescribed, and from that time there was no return of the trouble. Cazeaux has reported several similar cases, in detail. In the convalescence from acute illnesses, this mode of treatment is a great help and comfort to the patient. There can be no doubt that massage is a very valuable therapeutic agent, and is likely to yield good results in many complaints other than those I have roughly indicated.—*British Medical Journal*, May 15, 1886.

EFFECT OF BITTERS ON DIGESTION.—DR. CHELTSOFF, chief of Professor Botkin's clinic, thinks that extracts of the so-called "pure bitters," which are usually prescribed with the view of stimulating the secretion of gastric juice and of aiding digestion, so far from having any beneficial effect of that kind, are absolutely injurious, inasmuch as they retard the digestive functions. He has made a series of experiments with extracts of aurantium, gentian, trifolium, absinthium, calumba, cascarilla, and quassia on (1) gastric digestion, and the secretion of gastric juice; (2) pancreatic digestion and the secretion of pancreatic juice; (3) the secretion of bile; (4) fermentation; and (5) nitrogenous metamorphosis. The conclusions at which he arrived were that bitter extracts, even in small doses, interfere with artificial gastric digestion, and also with the gastric digestion of animals, but not to so great an extent. Large doses of bitter extracts diminish the secretion of gastric juice, though small doses effect a slight and transitory increase of it, the digestive power of the fluid being, however, in all cases diminished. Bitter extracts have no effect on the secretion of pancreatic fluid, but they nevertheless retard hypogastric digestion. The action of bitter extracts on the secretion of bile is various; extract of absinthium, extract of trifolium, and large doses of extract of cetrarin, slightly increases it, usually at least, but not invariably; while extract of quassia, extract of calumba, and small doses of extract of cetrarin, have no effect at all. Bitter extracts have no anti-fermentative effect, and do not hinder suppuration. Lastly, assimilation of nitrogenous substance is diminished by the use of these extracts.—*Lancet*, May 15, 1886.

A CASE OF COMPULSORY AND EXCLUSIVE BACKWARD MOVEMENT.—In *La Rivista Clinica* of June, 1885, DR. MAZOTTI reports the following rare case: An alcoholist, 66 years of age, was admitted into the hospital of Bologna for the treatment of scurvy. After his recovery from this affection, it was found that in spite of the greatest efforts, he could only walk backward, and that after that he had to turn around his own axis. These movements, of course, constantly imperilled his life. He soon succumbed to pneumonia, and the examination of the brain showed an atheromatous condition of the vessels at the base. We wonder that the inspection of the spinal cord was omitted, which might have given some clue for these peculiar symptoms.—*Therap. Gaz.*, May 15, 1886.

PHOTOGRAPHING THE UTERINE CAVITY.—A Swiss physician describes a plan of introducing wadding tampons and laminaria tents into the uterus, by which he has succeeded in dilating the organ to such an extent as to be able, by means of reflectors, to get a complete view of the whole cavity in cases of carcinoma, fibrous polypi, fibromata, and endometritis. Not being content with ocular inspection, he has also contrived to obtain photographs of the cavity.—*Lancet*, May 15, 1886.

THE
Journal of the American Medical Association.
PUBLISHED WEEKLY.

THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

SUBSCRIPTION PRICE, INCLUDING POSTAGE.

PER ANNUM, IN ADVANCE.....$5.00
SINGLE COPIES.....10 CENTS.

Subscriptions may begin at any time. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 65 RANDOLPH STREET,
CHICAGO, ILLINOIS.

SATURDAY, JUNE 5, 1886.

A FOURTH YEAR OF MEDICAL STUDY—OF WHAT SHOULD IT CONSIST?

A very few of the medical colleges of this country advise a fourth year of medical study, but by none is it required. The catalogues of *most* of these schools do not show that any students are enrolled in the four year course. The studies taught in the three first years are just those that are required for graduation. The studies of the fourth year consist of supplementary clinical work and in advanced instruction in some of the special branches of medicine.

A fourth year of this character is not what most students wish. They know that a year or eighteen months spent in a good hospital as house physician and surgeon will enable them to see more and learn more than they could in the fourth year at college. The best students will therefore plan to graduate in three years and take their fourth year of clinical and practical instruction in the hospitals. Poor students will not spend any more time in study than is required of them. These are without doubt the reasons why fourth year courses have not yet become at all popular. Three years is too short a time for a proper study of medicine unless the student comes to college well disciplined by previous study, and best of all by a certain amount of scientific study. We would suggest, therefore, that in this country to-day there is more need of a fourth year introduced at the beginning of the medical course than at the end of the present three years of graded study. Such a course would meet the wishes of several classes of students.

Frequently the question is asked by parents who have sons 18 or 19 years old desirous of ultimately studying medicine, who have not the means to give them a college education and who yet desire to prepare them a little better for the study of medicine, what and where can they study for a year or two? Many of our literary colleges and scientific schools have longer courses that are well adapted to such cases, but not short courses purposely planned for these students. There is a still larger class of students who have a fair English common school education, who know nothing of scientific methods of study and who nearly waste the first year of their medical course in learning how to study. As these form a very considerable proportion of the students at medical colleges, and not unfrequently some of the best, it would seem right that they should receive or be provided there with a year's course which should be preparatory to their further study. The best of these certainly could readily be induced to take a year of preparation for medicine if a proper course was offered to them, and they would be much benefited thereby. What is now most needed by a majority of the medical students is some preliminary, or rather preparatory, education.

At least a good English education should be demanded as preliminary to taking up any course in a medical school. The four year course that we would suggest would consist of a preparatory year of study and the three courses as now graded in our best colleges. Graduates of literary colleges and scientific schools might well be admitted to the second year in this scheme without examination on the branches of the first year.

With a good and a broad preparation the details of the study of medicine will be acquired most readily, and they will possess for the student much more interest. Frequently students will applaud a lecture devoted to the circulation of blood through the heart as it is illustrated by various experiments or drawings, but when the same lecturer describes the chemical changes that occur in the blood while it passes through the lungs or through a muscle or other organ of the body, his words are devoid of interest, and often to the student of meaning. Why is this? In the first place, the student does not appreciate the importance of the subject; in the second place, he is at the time studying elementary chemistry and is not prepared to understand the complex changes that the lecturer describes. How much better could a student appreciate the existence of these chemical changes in connection with growth and life if, in a course on general biology, he had studied practically himself the comparatively simple changes effected by the growth of the yeast plant in the air and the

medium about it. This will illustrate in a measure the necessity for some preliminary knowledge of science. A knowledge of chemistry, physics and general biology would throw a flood of light and interest on physiology and pathology. Physics and comparative anatomy would bear a similar relationship to human anatomy, both normal and pathological. Botany would be especially valuable to the student of materia medica.

The subjects that might appropriately be studied during this proposed year would be chemistry, physics, general biology, elements of comparative anatomy, and botany. In connection with chemistry there should be an abundance of practical work in the laboratory, and the use of the microscope should be taught in connection with the biological and anatomical studies.

The objects that such a course would accomplish would be threefold. First, it would give the student a scientific foundation upon which to build a medical education. Second, it would make easier and more entertaining some of the most technical parts of medical study. Third, it would teach the student scientific methods of thought and reasoning that would enable him better to appreciate science as applied to medicine. Such a course would not be an appropriation of studies by a medical school that rightfully should be taught elsewhere, for during many years the medical curriculum in the best schools of the old world has included these branches, and they rightfully belong in it.

THE DRY TREATMENT OF SIDEWALKS.

The visitor in Chicago at this season of the year, and until the snow falls in the autumn, is usually surprised to see the regularity with which the streets are sprinkled by the watering carts, and the equal regularity with which the sidewalks are never moistened except from the clouds. The visitor sees it with surprise, and the residents see it and grumble. It is not at all unusual to see men, going down town to business in the morning, crossing the street to avoid a cloud of dust which is being raised by an industrious sweeper in front of a dwelling or store, and then recrossing to escape suffocation from the dust raised by the emptying of a barrel of ashes into an ash-bin (which generally has a prominent place on the sidewalk). This cloud-raising process is usually gone through with three or four times a day, as the breezes with which Chicago is blessed will on no account allow all the dust and sweeping to be deposited in the gutter. The dust raised by one sweeper is carried to the sidewalk of the next house, and into the open windows within the vicinity. The clouds of dust which frequently pour forth from the door of a business house might sometimes cause a myopic person to raise an alarm of fire; and the smoke from a fire would be much more pleasant in the eyes and nostrils than the heterogeneous dust which salutes and envelops one twenty or thirty times in a walk of a mile.

A certain amount of dust in a large city is unavoidable; but it does seem that with a large lake just outside the city limits enough water could be found to sprinkle the sidewalks before they are swept. Dust which is chemically clean is unpleasant when deposited on the buccal, conjunctival or Schneiderian mucous membrane; but the typhoon of the desert has the odors of Araby compared with the compound which is sifted into one's nostrils from a butcher's shop or a fish market. That the sidewalks are cleansed (?) in this manner is all the more surprising when one notes the manner of cleansing the windows: A person takes a cup of water, and repairing to the edge of the sidewalk, or as near to it as possible, projects the water in the direction of the window, a pedestrian usually receiving a share of it. After the windows are washed the dry process is applied to the sidewalk, and the window is again ready for the washing of the next day.

Will the efficient Department of Health of Chicago look into this matter and see if it cannot be remedied? Dust in large cities, and in large quantities, is not only unpleasant but unwholesome. It has been claimed that in times of cholera water should be withheld from the streets, as the cholera microbe will more quickly perish when kept dry. But Chicago is now free from cholera, and even if it were not there could be no good reason why the streets should be sprinkled regularly, and the sidewalks kept dry with equal regularity.

THE TREATMENT OF HYDATID DISEASE IN MAN.

Such is the title of an interesting paper read by DR. W. GARDNER before a recent meeting of the South Australian Branch of the British Medical Association. He classifies the treatment under the three heads of medicinal, expectant and surgical; but one may very properly class the medicinal treatment as expectant in the larger of cases. The medicinal treatment can consist only in the administration of drugs which are supposed to cause the death of the parasite, and which must at the same time be innocuous to the patient; and before any conclusions can be drawn, says Dr. Gardner, we must prove two

things: that a hydatid cyst is present in connection with some organ, which is not only very difficult, but absolutely impossible without tapping or aspiration (which may then be reasonably said to have assisted, if not actually produced the cure). 2. If a cure is supposed to have been effected by the use of drugs it is necessary to show the existence of a collapsed and retrograded cyst by post-mortem examination. And even should these things be done it would be entirely proper for a sceptical person to say that the life history of the hydatid renders it very probable that the death of the vesicle at a more or less remote time is but a natural ending. At any rate it is found that among all the reported cases there is not one which may with any certainty be said to have been cured by purely medicinal treatment.

We have said that the medicinal treatment may be properly classed as expectant; though the use of the term expectant in speaking of the treatment of hydatid cysts is rather foreign to the usual acceptation of the term, and is only applicable to those cases of cysts of the lungs which have ruptured spontaneously into a bronchus, and not to any unruptured cysts of the lung. Of Davaine's 40 cases there were 15 cures and 25 deaths; and of the 15 cures 12 were from the expectant treatment. Hearn has recorded 144 cases, with 62 cures and 82 deaths; 45 of the cures being from the expectant treatment, though it may be suspected that Davaine's cases are included in his table. Many of Davaine's cases occurred during the early part of this century, when the diagnosis was probably less exact than to-day. Dr. Gardner has records of 24 cases of hydatids of the lung with spontaneous rupture, with 22 recoveries so far as he has been able to keep track of the cases. Bird has met with 150 cases of hydatid of the lung, but his monograph gives no statistical details. But taking all the statistics at command, it seems that of 212 cases of spontaneous rupture 101 have recovered and 111 have died—less than 50 per cent. of recoveries. Bruen, in his article on "Pulmonary Hydatids" in Pepper's "System of Medicine," says that 30 or 40 per cent. of cases terminate in recovery if the cysts spontaneously burst, death being caused in others by suppuration and exhaustion. The very rational conclusion to which Dr. Gardner comes is that the expectant method will only be applied to ruptured cysts which are causing little inconvenience, and are in process of cure, and cysts so situated as not to be amenable to surgical treatment.

The surgical methods of dealing with hydatid cysts have been given so often they need not be detailed in this place. Dr. Gardner's general conclusions are that all hydatid cysts of the external surface of the body should, immediately upon the establishment of the diagnosis by the aspirator or hypodermic needle, be incised and the cyst removed; and that hydatids of the lung or abdomen should be first tapped to establish the diagnosis, and, if possible, to effect a cure. A radical operation should be made on the appearance of suppuration or of opacity of the fluid. He thinks that in the future we will best secure the safety of the patient by resorting to an early radical operation.

Dr. Frank Donaldson, Jr., is the author of the paper entitled "A Preliminary Account in Regard to Circulatory and Respiratory Changes observed in Animals placed in the Pneumatic Cabinet," an abstract of which was given in The Journal of May 22, p. 579, and credited to Dr. Frank Donaldson.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, May 17, 1886.

The President, E. J. Doering, M.D., in the Chair.

Dr. Edmund Andrews exhibited a

NEW EVACUATOR FOR LITHOLAPAXY; AND A FILIFORM GUIDE ATTACHMENT.

(See page 626.)

Dr. W. T. Belfield opened the discussion by saying that the disadvantages of the ordinary evacuating apparatus mentioned by Dr. Andrews were well recognized, and that the apparatus exhibited seemed adapted to remove them. It possessed, however, one element of danger, namely, the possibility of undue distension of the bladder through sudden clogging of the exit tube. In cases of concentric hypertrophy, where the bladder can contain only three or four ounces, the continuation of the powerful inflow might, if the exit were obstructed, cause serious damage. Of course if the clogging is immediately discovered, a prompt use of the stopcock would prevent injury.

As to the urethral instrument, he would wish to be sure that the filiform could not be detached beyond the stricture. This danger attaches, of course, to all methods of securing the filiform, but would seem to be especially great in the arrangement exhibited. The loss of a filiform in a tight stricture is an extremely uncomfortable accident; in several cases surgeons have even made external urethrotomy to recover it.

To Dr. Andrews's remark that in case of such an accident urethrotomy is readily avoided by inserting a small lithotrite into the bladder and seizing the filiform, Dr. Belfield replied that when there is present a stricture so tight as to require patient work to persuade a filiform to pass, a small lithotrite could hardly

enter the bladder unless reinforced by a sledge-hammer. If the urethra is everywhere large enough to admit a small lithotrite, there could be no danger of losing a filiform because there would be no occasion to use one.

DR. FENN wished to know, if the momentum could be increased by increasing the specific gravity of the fluid, what would be the effect of a greater elevation of the reservoir?

DR. ANDREWS said that the attachment of a flexible guide to the urethrotome is always a source of care lest it become detached. This was less liable to occur with his instrument than in the old way. In case it should happen the lost guide could be seized and drawn out with a lithotrite.

The question of the pressure of the fluids and the strength of the bladder is one of great interest. But little is known about it. No more force should be used on a distended bladder, certainly, than a normal one could readily endure. We get the measure of this to some extent in the pressure of the expulsive power of the organ, which is a safe limit to keep inside of in the absence of other data. The pressure which Bigelow's evacuator ordinarily gives may form another guide, as this is known to be harmless. The reservoir must not be placed so high as to cause dangerous distension, should the outflow tube become obstructed. In practice forty inches had given all the current needed, and this was doubtless a safe pressure to use in any and all cases.

DR. JAMES I. TUCKER read a paper on

UNDIAGNOSABLE MALADIES.

These cases generally are not recorded because there is so little about them that is tangible. They are perhaps functional derangements simulating organic diseases, sometimes these cases yielding readily to simple remedies, but are puzzling because so evanescent. At other times they are graver, often ending fatally and yielding no facts upon post-mortem examination which will aid in a correct diagnosis. But the list of undiagnosable ailments is rapidly decreasing, for example, Richard Bright in 1827 explained that dropsical effusions are frequently due to diseases of the kidneys, Thomas Addison in 1855 ascribed to disease of the suprarenal capsule the cause of a form of anæmia accompanied by a dingy discoloration of the skin. Until recently zoster frontalis was classified among skin diseases, but now with much accuracy it is traceable to disease of Gasser's ganglion. Dr. Tucker related a case in which a lady had been twice badly frightened and her nervous system had been severely prostrated. At intervals she was attacked with an epileptiform seizure, transient paralysis of the entire left half of the body, constriction of the larynx, a state of trance, and finally a trance-like state in which she had died. This patient's mother, after a period of nervous disorder, had become a paraplegic, her father was temporarily insane, the eldest brother has an undefinable nervous disorder and a younger brother spasmodic asthma, while a sister has attacks of recurrent chorea major. In this peculiar group of nervous disorders what is the underlying cause? It is as yet unknown. This case illustrated the difficulty which hedges about the diagnostication of hundreds of cases of disease.

DR. PEARSON illustrated the difficulties physicians have to overcome in making a diagnosis by reason of the fact that they overlook some points in the history of a case, as in a case in which a patient had swallowed a piece of a metal spoon and it had lodged in the duodenum and blocked up the portal vein.

DR. W. T. BELFIELD presented specimens of

ANCHYLOSTOMUM DUODENALE.

These had been referred to him for verification by Dr. R. W. Gelbach, of Mendota, Ill., who had discovered them in the intestines of young cats that had died of anæmia. Dr. Belfield confirmed Dr. Gelbach's identification of the worms, but for further verification sent them to Dr. Joseph Leidy, of Philadelphia, who replied he thought they were anchylostoma, although he had never seen authentic examples. Dr. Belfield said the anchylostoma are small nematode worms, about half an inch long, which inhabit the duodenums of men and cats, and probably of other animals. Discovered in 1838, their pathogenic significance was recognized by Griesinger in 1851, who found in them the cause of Egyptian chlorosis. They are veritable leeches which fasten themselves to the intestinal mucous membrane and suck the blood of their host. When present in large numbers they induce pernicious and fatal anæmia by exhausting the individual's blood. In tropical climates, particularly Egypt and Brazil, cases of pernicious anæmia or chlorosis produced by them are quite frequent; in Brazil such cases are quickly cured by administering the pulp of fresh figs, which destroys the worms. Quite recently anchylostoma have been searched for and found in patients dead of pernicious anæmia in Germany. So far as Dr. Belfield knew, Dr. Gelbach is the first to discover the worms in the northern States of the Union. Their presence in cats makes it probable that they infest human beings also in this latitude. The possibility of this cause of pernicious anæmia should therefore be kept in mind, especially when other recognized causes—chronic nephritis, malaria, etc.—cannot be detected.

DR. E. ANDREWS asked if these worms were ever found in sufficient numbers to cause death, and he was answered affirmatively.

DR. W. W. JAGGARD exhibited the head of a

TÆNIA MEDIOCANELLATA,

obtained in the practice of Dr. C. G. Smith. The following was the formula used:

℞ Chloroformii ..... ℥i.
Oleores. felicis maris ..... ℥i.
Ol. tiglii ..... gt. i.
Aquæ camphoræ ..... ℥ii.
Gum acacia q. s. ft. emuls.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Stated Meeting, April 7, 1886.

VICE-PRESIDENT J. B. HAMILTON, M.D., IN THE CHAIR.

DR. J. FORD THOMPSON presented the

and the following history of the case and operation:

Mrs. B., age 38, admitted to Garfield Hospital March 9, 1886. First noticed tumor eighteen months ago. Four months ago she was tapped in Kansas City and thirty-seven pints of fluid withdrawn. No trouble followed tapping. Her "sickness" had been quite regular all along. On admission to the hospital the case book says: "General condition excellent; at times suffers severe abdominal pains; skin inactive; tumor nearly as large as before tapping. Excellent spirits." Dr. Thompson having waited three weeks for the menses, which were overdue, determined to operate, the patient having been properly prepared by baths, mild purgatives, etc.

The operation was done on March 11. The incision was made in median line, tumor reached and tapped, thirty-six pints of fluid being drawn off. The tumor was now found to extend upwards nearly to the diaphragm, and to be closely and generally adherent at that end. The incision was continued upwards to umbilicus, the short and thick pedicle drawn out, ligatured, cut and dropped into cavity, while he turned his attention to the adhesions at the other end. The incision was again increased upwards, its length being finally about eleven inches. Some adherent omentum having been tied and removed, the adhesions suddenly gave way and the sac was removed. It was now found that the lower abdomen was full of blood. The pedicle was at once drawn out, a second ligatare applied and the stump seared with the thermo-cautery. All hæmorrhage having ceased, the blood-clots were carefully and thoroughly removed. There being no oozing from any point that could be seen, the abdomen was sewed up with silver wire except at the lower end, where a drainage-tube was inserted. The patient made an excellent recovery from the anæsthetic, without vomiting or nausea. There being some pain a morphia suppository, gr. ⅓, was given.

March 12. Slept some and rested quietly last night. Some nausea this morning. Cavity washed out with 2 per cent. carbolic acid solution; only small amount of blood serum. Temp. A.M. 99.7°; pulse 90; resp. 28. P.M. temp. 101°; pulse 108; resp. 28. Temp. at midnight 100°. Milk given during day.

March 13. Rested quietly all night. Wound dressed as yesterday, looking well, and small quantity of discharge without odor. Temp. A.M. 98.8°; pulse 96; resp. 20. P.M. temp. 101.3°; pulse 100; resp. 20. Suffering from nausea and pain which was relieved by morphia. Drainage-tube shortened an inch.

March 14. Restless all night; nausea, but no vomiting. Flatus relieved by rectal tube. Wound dressed as before and looking well. Temp. A.M. 100.5°; pulse 96; resp. 20. P.M. temp. 103°; pulse 118; resp. 20. Vomiting frequently during day. Champagne given.

March 15. Midnight temp. 103°. Restless and wakeful. In the morning nausea and vomiting. At 11 A.M. wound dressed as usual; drainage-tube shortened. ⅛ gr. calomel every two hours. Noon temp. 101.8°; pulse 110; resp. 20. Enemata of beef tea and brandy every three hours; champagne every hour. Consultation. 10:45 P.M. enema rejected and much flatus. Temp. 101.5°; pulse 124; resp. 24.

March 16. Slight nausea from champagne. Very nervous and sleepless last night. Wound dressed. Temp. 118; pulse 128. Death at 1:25 P.M.

Autopsy.—Abdominal wound healed except where drainage-tube. Small abscess between two sutures at drainage end and outside the rectus muscle. No peritonitis. Omentum fresh and no change at points of adhesion. Douglas's cul-de-sac clean. On two bunches of intestine which had apparently been in contact with drainage-tube was some plastic material. Kidneys not examined.

What did she die of? Vomiting began on the afternoon of the third day, although the temperature had been normal in the morning. He had talked with her then, and she was in excellent spirits. She had passed flatus, so there was no twist of the intestines, although they had been handled considerably in removing clots. There was great prostration from vomiting. If there was septicæmia it must have been from the stitch-hole abscess, which was of unusually rapid formation. The thing to be regretted in the operation was the hæmorrhage. Such an accident he had never had before, and he thought this time, having made the usual knot (Thomas's), that it was secure. He did not, as usual, cut with the cautery, but with scissors, intending to come back to it when he had freed the other end. The hæmorrhage was not, however, extreme for a woman of her strength, and was not the cause of the fatal termination. Undoubtedly the pedicle, which was very broad, should have been kept in sight.

The length of the incision was because of the adhesions. He was afraid to use much force, because it was possible that the sac was attached to the gall bladder, liver or stomach, and damage would have been done those organs. He therefore continued the incision upwards in order to see. Adhesions were very numerous, and a bad prognosis was given. He would, however, do such a case, or even a worse case, again, as the probabilities are that it would get well. He thought the hæmorrhage was by the cutting of the first ligature. The time was fifty-five minutes, most of which was consumed in breaking adhesions and removing clots.

DR. E. M. SCHAEFFER had examined some suspicious nodules which were found on the inside of the sac. He made the following report: "The thick portion of cyst wall shows structure of sarcoma or carcinoma, *i. e.*, large spindle cells in foci and but little fibrous stroma."

DR. J. B. HAMILTON asked the condition of the urine before and kidneys after death.

DR. T. C. SMITH asked if it was not possible that in transfixing the pedicle he had punctured an artery. What knot was used?

DR. BUSEY requested Dr. Thompson to recapitulate symptoms, beginning at third day after operation.

DR. THOMPSON replied that there had been nothing out of the way with the urine and that the kid-

neys were not examined at the autopsy. He did not think that it made any difference whether an artery was punctured or not, as he used Thomas's knot, which tied everything. Beginning at the third day after operation she passed a good night; spirits excellent and temperature normal on morning of third day. Pulse 96; resp. 20. In the afternoon there was nausea and pain, and the temperature went up to 101.3°. Pulse 100; resp. 20. On the fourth day she had passed a restless night; nausea, but no vomiting. Temp. 100.5°; pulse 96; resp. 20. Vomiting began this afternoon, the temperature going up to 103°; pulse 118; resp. 20. On fifth day the vomiting had continued. The midnight temperature was 103°. Gave calomel in small doses. At noon temperature was 101.8°; pulse 110; resp. 20; in afternoon temp. 101.5°; pulse 124; resp. 24. Much flatus. On sixth day, wakeful night. At midnight pulse 130. Morning temp. 101.8°; pulse 128. Died at 1:25 P.M.

DR. H. D. FRY asked if there had been a chill?

DR. THOMPSON: No; but there had been a very great change in appearance between the morning of the third day and the sixth day. He had never seen such rapid emaciation.

DR. BUSEY: Was there any record of the amount of urine?

DR. THOMPSON: None of the exact amount, but the catheter had been used every four hours, and the history simply said plenty of urine passed. To a remark by one of the gentlemen Dr. Thompson said that he did not attach the same diagnostic importance to the rate of the pulse as to the height of the temperature. In reply to a question by Dr. Acker he said that antiseptics were used—4 per cent. carbolic solution for hands and instruments, iodoform gauze over wound, and over that bichloride of mercury gauze. 2 per cent. solution of carbolic acid was used for washing out. In reply to Dr. Smith he said that there was no shock.

DR. SMITH said that if in transfixing the pedicle an artery be pierced, and if now the pedicle be tied in two halves, the artery is held open and hæmorrhage occurs, the ligature being like two links of a chain.

DR. THOMPSON explained that a third loop was always taken around the entire pedicle.

DR. SMITH thought that this third loop might be taken *above* the needle hole, in which case it would not stop hæmorrhage.

DR. THOMPSON said that it was usually tied on a level or just below, and in any case he did not think hæmorrhage would occur.

DR. SMITH wanted to know where this hæmorrhage came from. Was it the fault of the knot?

DR. THOMPSON said that every ovariotomist had endeavored to find out a perfectly safe knot, and that it was by no means an easy thing to stop an artery in dense tissue. He thought that he had tied this as tight as usual and had used Thomas's knot. It is, however, possible that he did not tie tight enough, and he certainly did not cauterize stump as he ought to have done. His theory, however, was that the ligature, which was small, had cut into pedicle and hæmorrhage took place from below it.

DR. SMITH said that it was an important thing to know just where the hæmorrhage does come from; whether from adhesions or pedicle—as a very small hæmorrhage into the peritoneal cavity is a serious thing. Adhesions to the bladder were, he believed, the most serious.

DR. HAGNER said that he had recently seen reported a case very similar to Dr. Thompson's. The patient had begun vomiting on the third day, and died several days afterwards. At the autopsy only a small stitch-hole abscess was found out of the way.

DR. BUSEY said that from the autopsy it looked as if septicæmia was the cause of death. He did not believe that hæmorrhage or malignancy of the tumor killed the patient here. Perhaps if the kidneys had been examined another reason might have been found. He thought that the sudden onset of bad symptoms on the third day showed septicæmia.

DR. THOMPSON said he believed himself that it was septicæmia—which was a more or less convenient term when we did not know the real cause. It reflects on antiseptic surgery to use this term. Nevertheless, it does not upset antisepsis, even when pus is formed, for that may occur in any of the organs of the body unexposed to the air. Innocuous pus often occurs in antiseptic surgery, and the surgeon expects it in a certain number of cases.

DR. SMITH failed to see why Dr. Thompson should be surprised at the rapid formation of the abscess.

DR. THOMPSON replied that the time was short for the complete formation of any abscess in previously healthy tissues, but a stitch-hole abscess generally takes longer than five days.

DR. BUSEY said that in his previous remarks he had not meant to reflect at all on antiseptic surgery, and he did not believe that it would in all cases save.

DR. HAMILTON remarked that it was greatly to be regretted that a careful autopsy had not been made, for the whole question turns on what was the cause of death. The whole question is now purely one of speculation. The operation appears to have been well done, the amount of blood lost at the pedicle trifling, and the theory of septicæmia was open only to the Scotch verdict of "not proven." Was it carcinoma of any other organ? Was it heart clot? He had seen many cases of sudden death from heart clot on the fifth or sixth day after capital operations. Was it a sudden failure of the heart? Was it concealed hæmorrhage? All the organs not having been examined, it certainly was impossible to arrive at the cause of death.

DR. TONER said that he thought Dr. Thompson had not made the difficulties of the operation as prominent as they ought to have been. He had been present at the operation and had seen the quantity and solidity of the adhesions, which to him, who was not very familiar with abdominal surgery, seemed appalling.

DR. A. F. A. KING read a paper on

THE CONSERVATIVE ELEMENT IN DISEASE,

in which, after recalling the titles of his various papers, previously published, on this subject, he proceeded to explain that the element of conservatism must be

sought for only in those pathological phenomena that are regulated by *vital* laws, and not in others, such as calculi, emboli, etc., which are either accidental products or formations, determined by *physical* or *chemical* laws, outside the pale of nervous control. Neither could any conservative design be discovered, or expected, in many of the pathological phenomena observed after dissolution, because they were *final phenomena*, produced after the body began to die.

He next proceeded to explain that the vital phenomena of pathology were *acts* performed by the organism, under the control of the central nervous system, and for the benefit and preservation of that system, by which, indeed, the entire body was owned and governed, and the cessation of whose functions was immediate death. Under all circumstances, therefore, if life was to be maintained, the functions of the nervous system must be preserved, pleasantly and by physiological processes if they *can*, painfully and by pathological processes if they *must*. Hence many vital processes which *appear* to kill, may all the time have postponed the fatal event, by contributing to maintain the functions and nutrition of the great nerve centres.

His conclusions were: that in studying the *vital* phenomena of pathology, with a view to understand their natural purposes and conservative design, we must bear in mind: *First:* That these processes are *acts executed by the body*. *Second:* That these acts are *authorized*, *regulated*, and *controlled*, by the *central nervous system*, which *owns* the organism, and constitutes the coördinating power by which the whole body is governed, and its forces distributed. *Third:* That this government is, in every particular, *limited:*—limited in *material*, limited in *force*, and limited as to *duration*, and hence, for evident reasons, its conservative designs may fail, and death follow. *Fourth:* Unless the vital processes of pathology are studied in relation with these fundamental facts, it will be impossible for us to say, with anything like judicial accuracy, what processes are right or wrong, and what destructive or conservative.

Dr. King further remarked that he had begun with the view of explaining "The Conservative Function of Fever," but that the premises which he had laid down had led him off. He said he believed that fever was a conservative process set up by the nervous system in antagonism to some pathological process, and on the whole was not killing but helping to save the patient. He said that he had not fully explained this or the above, but as he had already consumed so much time he would stop.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Special Meeting, April 15, 1886.

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

W. H. H. GITHENS, SECRETARY.

DR. M. PRICE reported two cases of

EMMET'S BUTTON-HOLE OPERATION.

I desire to call the attention of the Society to a novel operation for the diagnosis and treatment of urethral and vesical diseases and accidents incident to parturition, devised and practised by Dr. Emmet, of New York, for the past six years. In the last edition of his work on gynecology he treats the subject elaborately, and gives it, as in his judgment, the most rational treatment for prolapsus of the mucous and submucous tissues urethrocele, lacerations of the urethra from dilatation or injuries in labor, gonorrhœal inflammation, and abscess in the urethral wall.

I desire to report two cases of this operation, in which no other treatment, in my judgment, would have been of the slightest benefit to the patients. The operation recommended by Dr. Emmet is what he designates as his "button-hole operation of the urethra," and may be performed either in the Sims's position or in the lithotomy position. The operation consists in opening the urethra from three-fourths to one inch, midway between the urethral orifice and the neck of the bladder, thus giving ample room for inspection of the canal for any growth or condition that may require drainage or operative procedure. In those cases where the opening is made for diagnostic purposes simply, the opening may be closed with sutures, or be allowed to close in its own way. Many cases of urethral irritation are wonderfully benefited and most of them entirely cured simply by the free drainage it allows. The mucous membrane of the urethra and vagina are tacked together in these cases to prevent retraction. In the operation for urethrocele, the urethral opening is made through the pouch or dilated portion of the urethra, while a block tin bougie is held in the bladder. The opening is continued down into the mucous membrane covering the sound, and a sufficiently large piece of the mucous membrane of the vagina removed to insure the removal of the pouch. The mucous membrane is then taken under the sound and drawn through the button-hole opening, so as to obliterate the redundancy of mucous membrane. Sutures are then passed from the vaginal surface to the block tin sound and back on the opposite side in the same position, all the sutures being thus introduced before cutting away the redundant mucous membrane held by a tenaculum in the hands of an assistant. This is to prevent the possibility of failing to incorporate the mucous membrane of the urethra in the sutures and so fail to secure a perfect result, inasmuch as it is the mucous membrane which, on account of its diseased condition, is giving the most trouble. This is also the operation performed for prolapse of the mucous membrane; its redundancy being pulled through the button-hole opening, back from the meatus, and there fastened. The redundancy is then cut away, instead of cauterizing it, as in the past.

The first case is that of a lady 32 years of age, the mother of four children. The last labor was very brief, as the woman was delivered with forceps in the hands of a medical man, who had another engagement and could not be delayed. This was four years ago. The woman, when she came into my hands, was suffering from a double laceration of the cervix, which was torn back to the vaginal vault; with laceration of the perineum back to the sphyncter; and

with a urethrocele that would have held two drachms of urine. There was also quite a protrusion of the mucous membrane of the urethra, what Emmet calls "hæmorrhoids of the urethra," from constant straining to pass urine. This woman had suffered constant tenesmus or bearing down pains ever since her confinement, with inability at times to go more than half an hour without passing urine; at other times she was compelled to micturate every few moments, the urine passing with the greatest difficulty. This was making great inroads upon her health. She had consulted quite a number of physicians and was treated, from what I can understand, for "cystitis" and "ulceration of the womb." This, I believe, was the diagnosis of her trouble by the gentleman who had rendered her such efficient service at her delivery. The patient was operated on after the method of Dr. Emmet. An opening one and one-fourth inches in length on the vaginal surface and three-fourths of an inch in the urethral wall was made and the superfluous mucous membrane, both from the urethrocele and from the mouth of the urethra, drawn through the vaginal aperture, and the sutures put in before cutting away the redundancy of tissue. Seven sutures were applied, and a perfect result was obtained in one week. When the sutures were removed they were all found in a space not larger than the end of my thumb, in consequence of the contraction of the tissues. The woman passed her water ten hours after the operation, and continued to do so afterward without pain or discomfort. At the present time, three months after the operation, she says she is better than she has been at any other time since her last labor. I would also state that the perineum and cervix were repaired at the same time. Silk-worm gut sutures were used in this case.

The second case is one of great interest from a medico-legal point of view, as the cavity of the urethrocele was lined with a pus secreting membrane. The patient, although under my care, was not examined until after the urethrocele became very troublesome. I then learned that difficulty from this source, gradually growing worse had been experienced for four years. These facts were not ascertained until the husband had repeatedly presented himself for treatment of a mild urethritis which always developed after sexual intercourse. His condition had been attributed to other than legitimate causes. After a considerable number of attacks, he began to inquire the cause of his affliction. Having been asked the question as to "foreign relations," he stoutly denied any such cause, though he admitted that he had suffered from gonorrhœa early in life, but had been completely cured long before the time of his marriage, some fifteen years ago. He was then asked to have his wife present herself for examination at my office. I found her suffering from laceration of the cervix and a urethrocele. The urethrocele was exceedingly tender to pressure and had the feel of a fibrous growth; no fluctuation could be detected upon light handling in examination. A pus cavity was suspected, from the painful character of the tumor and the husband's condition. Repeated attacks of urethritis following sexual intercourse indicated an unusually irritating discharge from some source, and as the mucous surface of the vagina and cervix was in a healthy condition, and the discharges mild and unirritating, there could be but one rational explanation of the husband's condition, viz: a suppurating sacculated condition of the urethrocele, with periodical discharges of pus. Examination under ether fully confirmed the suspected pathological condition. The urethrocele was thickened, corrugated, and filled with purulent ammoniacal urine. The patient was placed in Sims's position, and the operation was performed as detailed in the other case, except that the pus-secreting membrane was carefully removed with the scissors, and the edges of the healthy mucous membrane were picked up with a tenaculum and the sutures of silk-worm gut introduced as in the case before cited. A perfect result was obtained, removing all irritation of body and mind.

Dr. Joseph Price reported for DR. BARTON HIRST, a case of

VULVO-RECTAL FISTULA FROM VIOLENCE DURING FIRST COITION.

The patient, a young woman of 22 years, presented herself at the gynecological clinic of the Philadelphia Dispensary, with the following history: Previous to her marriage, which took place eighteen months ago, she had been a perfectly healthy woman. From the first attempt at sexual intercourse with her husband, which caused her to suffer such acute pain that she almost fainted, she dates all her trouble. The sexual act was also followed by severe hæmorrhage, which persisted for a month; the passage of fæces and flatus *per vulvam* was at once noticed. Every repetition of the sexual act for the next two or three weeks was followed by renewed bleeding, and even at the present time she suffers severely during intercourse. The passage of the fæcal matter through the vulva gradually increased in degree until the rectum was evacuated entirely through the vulva. There has been entire inability to retain flatus and fæces. Examination: The finger on entering the vulva passes at once into the rectum through a patulous opening of sufficient size to admit two fingers. Inspection shows a perfectly intact crescentic hymen of moderate thickness and rigidity, having a small anterior opening. Immediately in front of its posterior attachment is an irregular transverse tear, an inch and a half in its longest diameter, with thickened and everted edges, extending backwards and upwards for about one and one-half inches, exposing to view the mucous membrane of the bowel. The vagina is small and has evidently never been entered. The operation proposed by Dr. Joseph Price, and done by him March 16, 1886, consisted in freshening the edges of the tear, partially loosening the hymen from its attachment and using it as a flap to supply the deficiency. Spotted silk-worm gut sutures were used, and the closure, after the operation, was complete and resulted in perfect union. This form of injury to the vulva is very rare, for although sixteen cases[1]

[1] Paul F. Mundé, two cases, Boston Med. and Surg. Jour., 1885.
Treiss, two cases, Centralbl. f. Gynækologie, 1885.
Chadwick, one case, Boston Med. and Surg. Journal.
Colles, one case, London Med. Times and Gazette.

of rupture of the vagina have been reported during late years as occurring during coition, only one of them, recorded by Blumenthal and operated on by Sir Spencer Wells at the Samaritan Hospital, in 1860, bears any resemblance to the present case, which, from the careful analysis given it by Dr. Harris, is without doubt one of vulva-rectal fistula. This form of fistula is much less common than the recto-vaginal. The case here reported is of especial interest from the fact that the traumatism undoubtedly occurred during first coition; from the virginal condition of the hymen and from the long time during which sexual relations were maintained under circumstances which must have been disagreeable to both husband and wife. There was no sign or suspicion of specific taint in either man or wife.

Dr. R. P. Harris remarked that he had seen and examined the patient, and was struck with her emaciation. He inquired of her sister if she had not lost a great deal of flesh since her marriage. This brought out three photographs, all of which represented a short woman of full habit, one of them having been taken two months before her marriage. The sister stated that the patient had no control over her evacuations from the rectum, and that she was being constantly soiled by their escape. But for the fact that the husband had been deprived of his prepuce in infancy, thereby rendering the penis callous by the exposure of the glans to the air, it is hardly possible that he could have forced the organ through the flesh as he did, without so much personal suffering as to compel him to desist. Possibly also the tissues penetrated may have been less resisting than normal. As the arm of a fœtus has been known to perforate the rectum and protrude at the anus during labor, without laceration of the perineum, there must be in some women a much less than usual strength in the rectal wall. In considering the emaciation of this woman during the eighteen months of her married life, the question naturally arises, was this condition due to the want of rectal alimentation, to the constant loss of fæcal matter, or to the depressing effects of her condition, weakening her appetite and rendering her life miserable? The opening through the fossa naricularis into the rectum corresponded exactly with some of the cases of congenital malformation which Dr. Harris had met with, and particularly with one in a large stout primapara. In her, however, there was a slight anal sphyncter, and except when affected with diarrhœa she had control over her evacuations. The only case upon record which corresponds to this was operated upon by Sir Spencer Wells, in December, 1859, at the Samaritan Hospital.

Dr. Price remarked that eighteen gut sutures were introduced in closing the wound.

Dr. Charles Meigs Wilson exhibited a

FIBROID POLYPUS OF THE UTERUS.

This specimen was removed three weeks ago from the uterus of a patient with the following history: For the past three years she had been flooding almost constantly. Her flow had increased regularly at her catamenial periods, and at no time had it entirely ceased. See had suffered all that time agonizing pain, greatly increased during the menstrual period. The continued loss of blood had reduced her weight one-fourth, and the continued anæmia of her nerve centres had produced characteristic effects. During all this time she had had given her all the agents of the pharmacopœia vaunted for their efficacy in controlling uterine hæmorrhage. But the cavity of the uterus had never been explored, save in a desultory way with a sound. When first seen she was extremely anæmic, emaciated, troubled with insomnia, and had a very irritable stomach. The uterus was dilated with the Ellwood Wilson curved dilator. The growth, then readily seen, was grasped with a volsellum and dragged as far as possible from the uterus; a curved crescentic-shaped, probe-pointed bistoury was then made to sweep over the surface of the growth until it came in contact with the sessile attachment of the tumor, which was severed with a sawing movement of the knife. Prior to the operation large doses of the fluid extract of ergot were given to the patient for forty-eight hours, in order to insure powerful contraction of the uterus after the tumor was removed. Immediately after the ablation of the growth, the cavity of the uterus was smeared with a solution of one part of Tait's iodine and two parts of pure carbolic acid. During the operation the patient lost half an ounce of blood. The removal of the tumor would undoubtedly been accompanied by excessive hæmorrhage had not the precaution have been taken to secure prompt uterine contraction by the previous administration of ergot. The patient made a happy recovery, has lost no blood at all since the operation, has gained in weight and improved in appetite. The case carries with it its own lessons. All the fruitless medication and the long period of suffering and distress might have been avoided had her medical attendants, at the beginning, dilated and explored the uterine cavity, removing the cause of the hæmorrhage instead of temporizing and making use of methods which at best, in cases of continued hæmorrhage from the cavity of the uterus, are of a prophylactic nature. The polypus when fresh was four inches in length, two and a quarter in breadth, and one and three-quarters in thickness.

Dr. Goodell thought it was an error to expect hæmorrhage after the removal of uterine fibroids. Velpeau had removed a very large number of these tumors, and his method had been to cut them away by means of a knife, and yet he had hæmorrhage in two cases only. Dr. Goodell has removed very many of these tumors, and has employed every method; he has never had any trouble from hæmorrhage. In Constantinople, while young in experience, and in consultation with another very young man, he saw a case in which auto-enucleation had commenced. The tumor was too large for removal by means of the écraseur, as the vagina was so filled up that the wire could not be got up to the base of the tumor. They concluded to cut off all they could

Schrœder, one case, "Gynecology," last edition.
Blumenthal, one case, London Med. Times and Gazette, 1860.
Thompson, one case. Medical News, 1885.
Ross, one case, Canadian Medical and Surgical Journal.
Massalitinow, one case, Centralbl. f. Gynækologie.
Kleinwachter, one case, Wien Med. Presse, 1885.
Cayley, two cases, Indian Med. Gazette, 1872.
Denmann, one case, Lect. in Allgemein Hospital, Vienna.

get at, and then gave ergot. The next day another large slice was removed, and at the end of a week they succeeded in dividing the false pedicle and all was safely removed, without any hæmorrhage whatever. Since then he has ceased to fear hæmorrhage, and thinks a danger is incurred by the use of ergot in causing contraction of the cervix uteri and incarcerating the tumor. He removes many submucous tumors by dilating the cervix with his dilator, passing in the polypus forceps and accomplishing the diagnosis and removal at the same time, the latter being effected by twisting. When he has recourse to the écraseur, he now uses the finest piano-wire, which is more efficient than the heavier and less liable to break. He first pushes the écraseur up to the fundus uteri with the wire bent over, and then coaxes the wire up, and in this way has little trouble in getting it around the base of the tumor. Before tightening the wire he removes traction from the tumor and pushes up with the écraseur, so as to correct any inversion of the uterus that may have been caused in pulling the tumor down. Now when the wire is tightened the tumor will be divided without fear of injury to the uterine tissue.

DR. HOWARD A. KELLY said the choice of method in these cases should depend largely upon the individual peculiarity. Chassaignac's écraseur had rendered him good service in those polypi having broader bases of attachment, but when this is at the fundus and a large tumor chokes the vagina or cervix uteri, the difficulty of satisfactorily fixing the loop is very great. The porte-chaine added to the écraseur by Marion Sims is serviceable, but nothing will compare with the flexible, easily adjusted wire of a Braxton-Hicks écraseur. Where the pedicle was neither large nor dense he has had great satisfaction in the use of phosphor-bronze wire, which is so much more easily manipulated than piano-wire. Scanzoni's plan of cutting the tumor off when the pedicle is long is excellent and safe. It goes without saying now that rigid antiseptic precautions should accompany any such operation.

DR. PARISH did not think there was much difference in the method of different operators. He never gives ergot before any intra-uterine operation in which he wishes relaxation of the cervix. With the écraseur he uses wire and introduces it in the manner described by Dr. Goodell, and uses jeweler's pliers to manipulate the wire, pushing it up and around the tumor. He has no fears of sepsis if all the tumor be removed, but he takes the precaution of injecting a very hot solution of mercuric chloride after operating.

DR. MONTGOMERY has had free hæmorrhage after removing uterine fibroids by means of the écraseur. This hæmorrhage was so free in one case that hot water injections would not control it, and Mensel solution was applied with success. He, however, would not give ergot beforehand for fear of causing rigidity of the cervical tissues. In one instance large piano wire snapped several times on account of the firm, dense character of the pedicle, and he had recourse to cutting away portions of the tumor, the remainder being thrown off by natural action. The tumor had been adherent to the posterior wall of the uterus and had been partially enucleated before operation. The patient was very weak, and septicæmia and death resulted. In a case in which he used the wire écraseur a portion of the tumor was left; it was thrown off by auto-enucleation, and was very offensive. The patient did not suffer from sepsis, but having wounded his own finger with a tenaculum in its removal, he was very sick in consequence. He thinks the spoon curette or saw would be the best instrument in the enucleation of large fibroids.

DR. GOODELL carefully cleanses out the vagina before and after operation. He formerly used carbolic acid, but now prefers the mercuric chloride. He prefers the high note piano wire, which has never broken in his hands, as it cuts as well as crushes.

DR. W. S. STEWART is glad to hear about the greater strength of the small piano wire, as he has been using triple twisted wire and has been much troubled by its breaking, so that he has given it up for the chain. He had mentioned his trouble to Gemrig, who recommended iron wire, which has been answering a very good purpose. He much prefers Labarraque's solution of chlorinated soda as an antiseptic and disinfectant.

DR. GOODELL remarked that the finer piano wire was not stronger, but was more efficient, as it cuts more easily through the tissues. Twisted wire will break more easily than single because the strain on the different strands is unequal.

DR. BAER agrees with Drs. Goodell and Parish as to the unadvisability of using ergot before operating. He has given up the écraseur on account of the difficulty attending the breaking of the wire. He is now in the habit of pulling down the tumor and removing it piecemeal. He uses vinegar if a styptic is needed.

DR. WILSON has seen one death follow the use of the écraseur, and has had trouble in adjusting the wire; the liability of removing uterine tissue by the wire is a great danger. He thinks it better to drag the tumor down and cut it off in pieces. He feared hæmorrhage in this patient on account of the fearful loss of blood which she had already sustained. He considered prophylaxis the safer course.

VAGINAL HYSTERECTOMY.

DR. WM. GOODELL exhibited a womb which he had removed per vaginam. The woman had been brought to him by Dr. F. R. Gerhard, of Douglassville, Pa. She was 65 years old and had given birth to twelve children. She had a hypertrophic elongation of the womb, the sound giving a measurement of minus five inches. Her cervix was outside of her body, and it was very greatly enlarged in every direction by a carcinoma. On March 10, before the students of the University of Pennsylvania, he amputated the cervix after applying an elastic ligature; but finding that Douglas's pouch had been opened, he concluded to perform the radical operation. The womb was accordingly retroverted, its attachments to the bladder severed, the broad ligaments tied *en masse*, each with two strong ligatures, and the womb removed. The large gaping wound was closed by seven wire sutures, leaving only a small opening through which the ligatures passed and acted as drainage-tubes.

Sublimated cotton was lightly packed into the vagina. This was removed twice a day and the womb syringed out with a 1–2000 solution of mercuric chloride. On the next day the temperature rose to 100.2°, but it never after that day reached 100°. The sutures were removed on the fourteenth day, and with some difficulty, as they were now high up in the apex of a cone-shaped vagina. She was able to go home on the twenty-third day after the operation.

Dr. H. A. Kelly remarked that he wished in this connection to emphasize a point of vital importance in every operation where there is either artificial or pathological descent of the cervix proper. The slightest traction, elongating the cervix, draws the vaginal vault down over the displaced supra-vaginal portion, like the finger of a glove, and unless especial care is directed to this point, there is imminent danger of scalping the vagina in any operation then performed on the cervix. In lacerated cervix, particularly where Dawson's scissors are used (and great downward traction is fashionable), and the bases of the broad ligaments are opened in this way; and in amputation intended to be limited to the infravaginal cervix, as in this case of Dr. Goodell's, either the scalping process lays bare a broad tract of areolar tissue in the vault around the cervix, or, worst of all, Douglas's pouch is laid open. It is unnecessary to enlarge upon the greatly increased dangers of septic infection. He would ask Dr. Goodell in relation to the after-treatment of this case. In the latest contribution to this subject by Dr. Brennecke, of Magdeburg, in the *Zeitschrift fur Geburtshulfr und Gynecologie*, he clearly shows that those cases ran a most favorable course in which the iodoform tampon was not removed for six or seven days, and that syringing after operation with a view of carrying off foul discharges is a pernicious practice, as it separates the peritoneal surfaces which have just formed delicate adhesions, and breaks up the early steps of repair without the possibility of accomplishing its purpose. A point well worthy attention is Brennecke's method of dealing with the upper part of the stump of the broad ligaments, which are caught in stout ligatures. Experience has shown that the distal end is very apt to slough, and to secure an indemnity from the dangers of sloughing, Brennecke ties the ligatures of opposite sides across and everts the two stumps, thus fastened together, into the vagina, where they cannot do harm, and help form a plug for the wound.

Dr. Montgomery questions the propriety of total extirpation of the uterus. How long is the patient likely to live after this operation? If partial removal gives equal relief from the disease for which the operation is performed and an equal or greater chance for a prolongation of life, it is to be preferred as the least dangerous. Hoffmeier in a summary of German gynecological work opposes total extirpation if it can be avoided. He reports 145 cases of partial and thirty-nine of total removal of the uterus. Ten of each series were fatal. In six of the partial cases the result was unknown. Of the total removals six only were living at the end of two years and none at the end of three years; while of the partial six still lived at the end of the fifth year. Following the plan suggested by Sims and Van de Warker in cases of malignant disease of the cervix, Dr. Montgomery makes an incision into the uterus at the vaginal junction and dissects upward as closely as possible to the peritoneal surface while making traction on the cervix; thus, as it were, enucleates the uterus, leaving a very thin wall; he then stuffs this cavity with a mixture of equal quantities of zinc chloride and water on cotton tampons to cause a slough of any diseased tissue that may have been left behind. If by chance the sloughing should perforate the peritoneum, the previous inflammatory exudation would save the peritoneal cavity from invasion.

Dr. H. A. Kelly does not wish the claim of an eminent American surgeon to priority in this matter to be forgotten. The credit of originating the highest practicable one shaped amputation of the uterus, and establishing its great utility, its safety and relatively greater success is due to Dr. Baker, of Boston, He uses no cautery and controls hæmorrhage perfectly by the effect of the strong downward traction upon the vessels.

Dr. Parish mentioned an earlier operation by Hirth, of San Antonio, Texas, who practiced the method described by Dr. Montgomery, of enucleating the uterus from its peritoneal covering. He divided the vaginal mucous membrane and gradually shelled or scooped out the uterine tissue. The operation was accompanied by great hæmorrhage.

Dr. C. M. Wilson, thought such an operation very dangerous and liable to be followed by secondary hæmorrhage. He has in two cases after Dr. Baker's method; used a hot tamponade of the uterus and vagina after the operation. Dr. M. McCormick, of London, packed the stump with bandage or gauze, filled with iodoform, and allowed it to remain undisturbed for nine days. This was perfectly sweet when removed, and is a good and safe plan of after treatment.

Dr. Goodell said that the method of Brennecke's, of not washing, seemed to him to be undoubtedly a good one, and he would in future adopt it. He once had an alarming hæmorrhage from the division of a large vessel after a hole had been accidently made in Douglas's cul-de-sac in the high amputation. Consequently he could not pack the vagina for fear of forcing blood, etc., into the peritoneal cavity, and he had to control the bleeding by twisting a wire around it. He generally uses Paquelin to control hæmorrhage in these cases, and has operated upon at least 200 with only four deaths. Neither of the fatal cases were high operations. One death was from secondary hæmorrhage, one from tetanus, one from a frank peritonitis and one from septicemia. He thinks the high operation the most feasible one in the majority of cases in which the womb is movable and he has extirpated the womb but twice for carcinoma.

Dr. H. A. Kelly exhibited the sac of an

OVARIAN TUMOR THAT WEIGHED AT REMOVAL ONE HUNDRED POUNDS.

Dr. Goodell congratulated Dr. Kelly upon his success in removing such a large tumor. He, Dr. Goodell, had on one occasion removed a tumor weighing 112 pounds from a woman, who after the operation

weighed only 74 pounds. As in Dr. Kelly's patient the tumor reached the patient's knees and she could not lie down. After the operation the large folds of the stretched skin were a great annoyance, but after some months it had entirely contracted. The patient made a complete recovery.

DR. M. PRICE had been present at Dr. Kelly's operation. A large vein was torn and a stream of blood as large as his finger poured out. The patient collapsed instantly and Dr. Price thought her dead, but he was surprised and pleased at the effects of a hypodermatic injection of ʒj. of sulphuric ether which restored the pulsation quickly.

(*To be concluded.*)

DOMESTIC CORRESPONDENCE

THE DANGERS OF KISSING.

TO THE EDITOR OF THE JOURNAL:

Dear Sir:—Apropos to the paper of Dr. Samuel S. Adams, in your issue of May 22, allow me to thank him for the paper and to report two cases of syphilis from kissing.

About 1872 a young man presented himself at my office with a full-blown chancre on his penis, and syphilitic sore mouth. He was treated *secundam artem* and went his way. Some weeks later I received a letter from him saying that his chancre was healed and that he was doing well, but that he was in further trouble—that a few days after consulting me he had kissed a young lady at an evening party in Altoona, and that she had syphilitic sore mouth as a result.

Recently I was consulted by a young married woman. She was a stout, robust person, of great natural physical strength. She presented a squamous eruption, syphilitic sore mouth and condylomata. I sent for her husband. He was perfectly healthy; vowed, and I believe truthfully, that he was and had been pure. I told him the condition of his wife, and warned him against infection. We then began an investigation of the origin of the wife's infection. And it may be well to state here that I had not questioned her chastity. I knew the woman. The search was attended by success. A brother had long been absent, returned home with syphilis, kissed his sister and infected her. He remained at home for some time, and during the time was treated for his malady by a physician within three minutes' walk of my office.

If these cases will help the cause I will be rejoiced.

R. STANSBURY SUTTON.

BOOK REVIEWS.

THE LETTSOMIAN LECTURES Delivered at the Medical Society of London, 1872, on THE PATHOLOGY AND TREATMENT OF SOME DISEASES OF THE LIVER. By S. O. HABERSHON, M.D. Lond., F. R. C. P.; Late Senior Physician to, and Lecturer on Medicine at, Guy's Hospital, etc. Second Edition. 8vo., pp. viii, iii. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

It is to be regretted that Dr. Habershon should have sent out a second edition of these lectures without making radical changes in the form and subject-matter. It is equally to be regretted that he should have chosen such a large subject for three lectures, and so small a book. It is not to be compared in any way with his Lumleian Lectures on the "Pneumogastric Nerve," delivered in 1876. What there is of therapeutics in the book cannot be highly commended; the pathology, which one would expect from the title, amounts to almost nothing, and the physiology is not up to date. There is no index to the book.

LECTURES ON THE DISEASES OF THE NOSE AND THROAT. Delivered during the Spring Session of Jefferson Medical College. By CHARLES E. SAJOUS, M.D., Lecturer on Rhinology and Laryngology in the Spring Course of Jefferson Medical College; One of the physicians in charge of the Throat Department, Jefferson College Hospital. Fellow of the American Laryngological Association, Corresponding Member of the Royal Society of Belgium, and of the Medical Society of Warsaw (Poland), etc., etc. Illustrated with One Hundred Chromo-Lithographs, from Oil Paintings by the Author, and ninety-three Engravings on Wood. 8vo., pp. xii, 439. Philadelphia: F. A. Davis, Att'y, Publisher, 1885.

Medical literature of recent date is so profuse, so verbose, and so frequently is one book but a paraphrase of another, that we are gratified and much refreshed by the originality of Sajous' Lectures on the Diseases of the Nose and Throat. Like a certain work of which it was facetiously written—"The good things are not new and the new things are not good" —*this book* "contains both good things and new things, but unlike the first mentioned, the new things *are* good and many of the good things are new. Ninety-seven of the one hundred chromo-lithographs are original, nearly all of the instruments and apparatus depicted are the author's own or the author's modification; and his modifications are not of the useless variety, but they invariably impress one as precisely the improvement needed to remedy a genuine defect. Indeed, we cannot but admire the keenness of conception and wealth of device displayed in the many ingenious and withal simple inventions necessary to meet the indications.

As the difference between the normal and pathological state is often appreciable only in the change of color, this value for illustration of the numerous chromo-lithographs is at once apparent. In preparing them Dr. Sajous, again uniquely original, has performed the part of artist as well as of anatomist, and so successfully that we turn from one plate to another with ever increasing delight.

Prescriptions which comprise a number of remedies, have specified in smaller type, opposite each ingredient, the particular purpose for which that agent is employed. Knowledge of an exact character, of

which we are much in need in connection with local applications to mucous surfaces, is thus imparted.

Only the best therapeutic measures are recommended; faulty ones are denounced, and others are omitted. Useless discussions and doubtful theories are excluded and their space devoted to details of a practical nature. Instance, the section on hypertrophic rhinitis or hypertrophic nasal catarrh, wherein the various operative procedures and the requisite apparatus for the effective treatment of suitable cases by the galvano cautery, are described with exemplary minuteness and in a singularly lucid and interesting manner.

The phraseology, throughout, is plain and concise, the paper and print are good, and typographical errors are few in number.

We regret that it was found expedient to publish the work only by subscription, and hope that another edition will soon be issued to the trade so that it may be within the reach of all.

NECROLOGY.

WILLIAM OWEN BALDWIN, M.D.

WILLIAM OWEN BALDWIN, M.D., of Montgomery, Alabama, died at his residence in that city on Sunday, May 30, 1886. He was born in Montgomery County on August 9, 1818. Dr. Baldwin was the son of William and Celia (Fitzpatrick) Baldwin. His mother was the sister of U. S. Senator Benjamin Fitzpatrick, formerly Governor of the State of Alabama. After receiving a good collegiate education he studied medicine in the office of Dr. McLeod, of Montgomery. He attended medical lectures at the Transylvania University, Lexington, Ky., and received his degree of M.D. in 1837. He began practice in Montgomery and was associated with Dr. Wm. M. Boling, which association continued until 1848. In the meantime he visited Europe, and spent a year there in study in the leading medical schools and hospitals.

He was ambitious and well prepared in his profession, and justly took high rank among the foremost practitioners in his section of the country; and he was an interested student up to the time of his death. In debate he was a ready and eloquent speaker, and was an elegant and fluent writer. The medical journals contained numerous and valuable articles from his pen, from the time of his graduation to within the past year. His graceful tribute to the memory of his old and esteemed friend, Dr. J. Marion Sims, will be remembered by most physicians of the present day. But he also wrote well on many of the more important diseases and questions of interest to the profession of the South. He was an original member of the Medical Association of Alabama, has served as its President, and was a valued contributor to its *Transactions*. He was also an active member of the Medical and Surgical Society of Montgomery County, and was honored with its highest offices. He was a member of the American Medical Association in 1868 and its President in 1869, presiding at the meeting in New Orleans in that year. His address as President on that occasion is replete with Christian and patriotic sentiments, so beautifully expressed and well-timed as to remain shining landmarks in the history of the Association. The committee charged with organizing the Ninth International Medical Congress, which is to assemble in Washington City in 1887, had chosen Dr. Baldwin as one of its Vice-Presidents, his success in the profession and his high character as a man fully warranting the selection. In social life he was by nature a leader; his culture and refined feelings of a high order gave him real, not accidental prominence. Well versed on almost every topic, with a deferential manner and an agreeable voice, he was the chosen and welcome oracle of every circle.

Dr. Baldwin had been in poor health for several years, but his friends at a distance hoped his life would be spared for further usefulness. He leaves a wife and several sons and daughters. We hope to give at some time a more complete sketch of the life of Dr. Baldwin.

MISCELLANEOUS.

THE NEW HAMPSHIRE STATE MEDICAL SOCIETY will hold its sixty-ninth annual meeting in Concord, on June 15 and 16.

Reduced railway rates are as follows: The Concord will sell tickets to members and delegates to Concord and return at two cents a mile, each way, from Manchester, Nashua Junction, Portsmouth, Newmarket Junction, Epping, Raymond, Candia, Salem, Derry, Londonderry, Lawrence, Hooksett, Suncook, Pittsfield and Goffstown. The Northern and White Mountains Divisions of the Boston & Lowell will sell tickets to Concord and return at two cents per mile, each way, from White River Junction, Lebanon, Enfield, Canaan, Grafton, Potter Place, East Andover, Bristol, Franklin, Boscawen, Penacook, Claremont, Newport, Bradford, Warner, Peterborough, Hancock Junction, Antrim, Hillsborough, Henniker, Contoocook, Groveton Junction, Lancaster, Whitefield, Fabyan's, Littleton, Lisbon, Woodsville, Haverhill, Warren, Rumney, Wentworth, Plymouth, Campton, Ashland, Meredith, Weirs, Lake Village, Laconia and Tilton. The Boston & Lowell R. R. will sell tickets from Keen and Marlboro' to *Hancock Junction and return*, and from Wilton, Milford and Amherst to *Concord and return*, for two cents per mile, each way.

To secure Reduced Rates, tickets must be bought at these Stations.

This arrangement is for June 14 to 17 inclusive. Members can take advantage of it to attend the meeting of the Council, Monday evening, and also to remain and attend the meeting of the Alumni of Dartmouth College, which will be held in Concord City, June 17.

THE CHICAGO POLICLINIC.—This school, which has now been fully organized, will begin its courses of instruction on July 6. The systematic and regular courses of instruction will be held in the Hospital and

Dispensary building, at the corner of Chicago and La Salle avenues. The courses will be of six weeks' duration. Dr. Wm. T. Belfield, 612 Opera House Block, is the Secretary.

THE MICHIGAN STATE MEDICAL SOCIETY will hold its twenty-first annual Session in Jackson, beginning on Wednesday, June 9.

NEW YORK STATE MEDICAL ASSOCIATION, THIRD DISTRICT BRANCH will hold its second annual meeting in the Court House in Binghamton on June 17. The programme includes nineteen papers.

PROF. HANS GIERKE.—The University of Breslau has lost one of the most popular of its medical staff in Dr. Gierke, who died on the 8th inst. in the Maison de Santé at Schöneberg, near Berlin. Hans Paul Bernhard Gierke, brother of the well-known Professor of Law in the University of Heidelberg, was born on the 19th of August, 1847, at Stettin. After completing his academic studies he came before the public with his first scientific work, "Ueber das Athmungscentrum" ("on the Respiratory Centre"). At the instance of Dr. Kölliker, he went in 1876 to Tokio to fill the Chair of Anatomy in the Imperial University of the Japanese capital. By that time, however, the seeds of a lingering malady had declared themselves, and in 1881 he returned home to assist Professor Heidenhain in the Physiological Institute at Breslau, where he was appointed in the following year Extraordinary Professor. Advancing illness compelled him to seek a more southern climate, but the change brought him no benefit. Before his death his valuable collection of Japanese objects was exhibited in the Industrial Art Museum of Berlin, while his rich assortment of Japanese pictures was purchased by the State for the Ethnographic Museum of the same city.—*Lancet*, May 22, 1886.

VACCINATION IN JAPAN.—The Japanese do not appear to have lost any of their faith in the efficacy of vaccination for the small-pox. They have just enacted a very stringent law on the subject, for, besides ordinary vaccination in the first year of infancy, it provides for at least two subsequent re-vaccinations at intervals of from five to seven years, so that by the time a child has reached its fifteenth year it will have been vaccinated three times. During epidemics of small-pox, local authorities also have power, when they deem it necessary, to order the vaccination of all the inhabitants of their districts, irrespective of the vaccinations required by the law.—*Sanitary Record*, May 15, 1886.

A BILL TO PREVENT THE SALE OF IMPURE ICE has been reported by the Committee on Public Health in the Massachusetts House of Representatives. It provides that upon complaint in writing the State Board of Health may, if they think the complaint is well founded, order the sale of the ice stopped.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 22, 1886, TO MAY 28, 1886.

Lieut.-Col. Andrew K. Smith, Surgeon, Major Alfred A. Woodhull, Surgeon, and Capt. Jas. P. Kimball, Asst. Surgeon, detailed as board to assemble at U. S. Military Academy, West Point, N. Y., on June 1, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. (S. O. 119, May 21, 1886.)

Major Albert Hartsuff, Surgeon, detailed as member of a board appointed to meet at the U. S. Military Academy, West Point, N. Y., on June 1 and August 25, 1886, to examine into the physical qualifications of members of the graduating class and the candidates for admission to the Academy. (S. O. 121, A. G. O., May 25, 1886.)

Par. 7, S. O. 120, A. G. O., May 24, revokes so much of par. 12, S. O. 119, A. G. O., May 21, as details Surgeon Alfred A. Woodhull as member of medical examining board to meet at West Point, N. Y, on June 1, 1886.

Capt. C. K. Winne, Asst. Surgeon, granted leave of absence for twenty days, on surgeon's certificate of disability. (S. O. 54, Dept. Cal., May 17, 1886.)

Capt. Henry S. Kilbourne, Asst. Surgeon, assigned to duty at Vancouver Bks., Washington Ter. (S. O. 80, Dept. Columbia, May 15, 1886.)

Capt. A. H. Appel, Asst. Surgeon, ordered for duty at Ft. Reno, Ind. Ter. (S. O. 52, Dept. Mo., May 24, 1886.)

Capt. R. B. Benham, Asst. Surgeon, ordered for temporary duty at Ft. Omaha, Neb. (S. O. 56, Dept. Platte, May 24, 1886.)

First Lieut. R. W. Johnson, Asst. Surgeon, ordered for duty at Ft. Adams, R. I. (S. O. 45, Div. Atlantic, May 25, 1886.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING MAY 29, 1886.

Dickson, S. H., P. A. Surgeon, detached from the Naval Academy and to the "Constellation."

Simon, W. J., Surgeon, detached from the Naval Academy and to the "Constellation."

Kidder, B. H., Surgeon, detached from the "Powhatan" and to the "Tennessee."

Rhoades, A. C., Surgeon, detached from the "Tennessee," proceed home and wait orders.

Cordeiro, F. J. B., Asst. Surgeon, detached from the "Powhatan," proceed home and wait orders.

Clark, J. H., Surgeon, ordered for examination preliminary to promotion.

Hugg, Joseph, Surgeon, detached from the "Minnesota" and granted sick leave.

Beaumont, H. N., Surgeon, ordered to the receiving ship "Minnesota."

Law, H. L., Surgeon, detached from the "Wabash" and granted sick leave.

Henry, Chas. P., Asst. Surgeon, ordered to the receiving ship "New Hampshire."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDED MAY 22, 1886.

Bailhache, P. H., Surgeon, detailed as chairman, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service. May 19, 1886.

Wyman, Walter, Surgeon, granted leave of absence for thirty days. May 14, 1886.

Stoner, G. W., Surgeon, detailed as recorder, Board for physical examination of candidates for appointment as cadets, Revenue Marine Service. May 19, 1886.

Banks, C. E., P. A. Surgeon, leave of absence extended four days. May 5, 1886.

Bratton, W. D., Asst. Surgeon, detailed as medical officer, Revenue Str. "Corwin," during cruise. May 22, 1886.

Perry, T. B., Asst. Surgeon, appointed an Asst. Surgeon, May 21, 1886. Assigned to temporary duty at San Francisco, Cal. May 22, 1886.